DOCUMENT RESUME

ED 163 679 EC 112 503

AUTHOR Brownsmith, Keith; And Others
TITLE Evaluation of the Tips for Teachers Series: Ten Modules for Training Teachers of the Educable Mentally Retarded in Selected Instructional Competencies. Final Report 51.1.
INSTITUTION Indiana Univ., Bloomington. Center for Innovation in Teaching the Handicapped.
SPONS AGENCY Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.
PUB DATE Aug 77
CONTRACT 300-76-0032
NOTE 198p.; Parts may be marginally legible due to print quality
AVAILABLE FROM Indiana University, Center for Innovation in Teaching the Handicapped, School of Education, Bloomington, Indiana 47401 ($3.00)

EDRS PRICE MF-$0.83 HC-$10.03 Plus Postage.
DESCRIPTORS *Attitudes; *Course Evaluation; *Educable Mentally Handicapped; *Learning Modules; *Performance Based Teacher Education; Program Descriptions; Questionnaires; Reports; Skill Development; Surveys

ABSTRACT

The document is an evaluative final report on ten modules designed to teach specific instructional skills to teachers of the educable mentally retarded. The first chapter of the four-chapter report gives an overview of the study and a description of the modules. Chapter 2 explains the four-phase evaluation design: phase I, initial evaluations; phase II, expert review; phase III, use and impact study; phase IV, user's survey. Results delineated in Chapter 3 include the importance of content and skill areas, overcoming the limitations of handouts (previously employed), use of modules by teachers trainers and trainees, the attitude toward the modules, mastery of the content of modules, and suggested modifications. The fourth chapter presents a summary of the findings and submits four recommendations. Appendixes include, in part, a description of the modules, the questionnaires used in each of the evaluative phases, and an instruction sheet for the use of the module. (PHR)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED163679

U S DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

EVALUATION OF THE TIPS FOR TEACHERS SERIES: TEN MODULES FOR TRAINING TEACHERS OF THE EDUCABLE MENTALLY RETARDED IN SELECTED INSTRUCTIONAL COMPETENCIES

Keith Brownsmith
Kathy Frick
Marcia Maguire

August, 1977

Final Report 51.1

Center for Innovation in Teaching the Handicapped

Indiana University

BEST COPY AVAILABLE

EC112503

The development of these training modules was supported by contract #OEC 300-76-0032 from the U.S. Office of Education, Bureau of Education for the Handicapped to the Center for Innovation in Teaching the Handicapped. Contractors undertaking such projects under government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

Center for Innovation in Teaching the Handicapped

Director:	Melvyn I. Semmel
Instructional Development:	Sivasailam Thiagarajan
Evaluation:	Keith Brownsmith
Technical Services:	Jerry Olson

Tips for Teachers Series Evaluation

Evaluation Design:	Keith Brownsmith
Instrument Design:	Keith Brownsmith Kathy Frick
Data Collection:	Kathy Frick Marcia Maguire Keith Brownsmith Len Peak
Data Analysis:	Keith Brownsmith Subramaniam Kandaswamy Marcia Maguire

TABLE OF CONTENTS

		Page
CHAPTER I:	INTRODUCTION	1
	Overview of the Study	1
	Description of the Modules	2
CHAPTER II:	SUMMATIVE EVALUATION DESIGN	7
	Intent and Rationale	7
	Design and Results from Phase I - Initial Evaluations	11
	Design of Phase II - Expert Review	24
	Design of Phase III - Use and Impact Study	26
	Design of Phase IV - User's Survey	36
CHAPTER III:	RESULTS	38
	Importance of Content and Skills Area	40
	Overcoming the Limitations of Handouts	44
	Use of Modules by Teacher Trainers	49
	Use of Modules by Trainees	52
	Attitude Toward Modules	61
	Mastery of Content of Modules	70
	Suggested Modifications	77
CHAPTER IV:	SUMMARY AND RECOMMENDATIONS	83
APPENDICES		91
A.	Description of the Modules	92
B.	Formative Evaluation	105
C.	Expert Review Evaluation Questionnaires	115
D.	Trainees Evaluation Questionnaires	121
E.	Faculty Users Evaluation Questionnaires	149
F.	Instruction Sheet for Use of Module	154
G.	Student Users Questionnaires	156
H.	Current Owners Questionnaires	160
I.	Letters to Current Owners	163
J.	Means and Standard Deviation for Semantic Differential Scales	167

LIST OF TABLES

Table		Page
1	Relation Between Evaluation Phases and Evaluation Questions. .	10
2	Summary Table of Initial Module Evaluations.	12
3	Summary of Modules Assigned and Reviewed by Experts.	27
4	Description of Training Programs	28
5	Summary of Dissemination Implications from Phase I--Initial Evaluations.	39
6	Expert Opinion of Module Format Versus Handout Format.	45
7	Trainer Opinion of Module Format Versus Handout Format	47
8	Use of Modules by Different Faculty at Each Site	51
9	Use of Modules by Trainees at Each Training Site	58
10	Discriminant Functions Summary Table on Selected Sample Students' Ratings.	66
11	Standardized Discriminant Summary Table on First and Second Functions.	67
12	Summary of Criterion Test Items by Module.	72
13	Formative Evaluation	112

LIST OF FIGURES

Figure		Page
1	Experimental Design for "Parents as Partners" Module	17
2	Experimental Design for "Informal Reading Inventory" Module	19
3	Age of Trainees: Bar Diagram of Percentage Distribution	30
4	Sex, Level and Major of Trainees: Bar Diagram of Percentage Distribution	31
5	Courses in Which Trainees Used Modules: Bar Diagram of Percentage Distribution	32
6	Content Importance: Bar Diagram of Percentage Distribution	42
7	Planned Use of Module Content: Bar Diagram of Percentage Distribution	43
8	Format Preference by Trainees: Bar Diagram of Percentage Distribution	48
9	Recommend Use for Other Trainees: Bar Diagram of Percentage Distribution	53
10	Plot of Student/Faculty Usage of Modules	55
11	Percentage of Students Reporting Problems with Three Module Components	56
12	Percentage of Students Interviewed and Faculty Users Indicating Problems with Audio, Visual or Response Book Parts of the Program in any Modules	60
13	Mean Ratings of Modules by Experts	62
14	Mean Ratings of Modules by all Trainees	63
15	Mean Ratings of Modules by Select Sample Students	65
16	Plot of Centroids of Clarity and Effectiveness Function Versus Relevance and Practicality Function	69
17	Percent Mastery of Content--All Trainees	73
18	Mastery of Content at 80% and 60% Levels	75
19	Relationship of Clarity-Effectiveness and Percents of Trainees Attaining 80% Mastery	76

CHAPTER I. INTRODUCTION

Overview of the Study

In January of 1973, the Bureau of Education for the Handicapped (BEH) funded the Center for Innovation in Teaching the Handicapped (CITH) to produce a series of criterion-referenced, competency-based modules entitled TIPS FOR TEACHERS: Instructional Competencies Series. The ten modules were designed to train teachers in specific teaching skills related to instructing EMR pupils. The series was conceived as a desirable alternative to the use of "handouts" by instructors of EMR methods courses because the series provided:

1. Specific instructional behavioral objectives.
2. Multi-sensory medium for content presentation.
3. Opportunity for trainee to engage in skill development.
4. Feedback as to trainee skill attainments.
5. Criterion-referenced tests.

Each module included a filmstrip; an audiotape; a response book containing behavioral objectives, summaries, diagrams, samples, references, exercises, and feedback on exercises; and an instructor's manual providing technical information, suggestions for module use, criterion-referenced tests, and references.

Each of the TIPS FOR TEACHERS modules underwent some type of formative evaluation which provided feedback to developers as to modifications that should be implemented prior to final production. Also, a few modules received initial summative evaluations which focused upon questions relating to the usability of the module by trainers and trainees in the field of special education. Finally, an overall summative evaluation of the TIPS FOR TEACHERS

series was conducted during the spring of 1976. This final summative evaluation focused upon determining the desirability of disseminating any or all of the modules to the EMR teacher training programs. The major decisions to be considered as a result of the evaluation were determined as follows:

1. Should BEH disseminate the TIPS FOR TEACHERS series to the field?
2. Should special education teacher trainers acquire and use the TIPS FOR TEACHERS series?
3. Should special education teacher trainees use the TIPS FOR TEACHERS series?
4. What modifications should be made in future modules?

The following report summarizes the evaluation of the TIPS FOR TEACHERS modules and presents recommendations regarding the possible dissemination of these instructional modules.

Description of the Modules

Each TIPS FOR TEACHERS module consists of an audiotape cassette, a filmstrip, and a response book. The audiotape presents the main narrative and is synchronized with the filmstrip which visually clarifies and highlights the audio presentation. In addition, the audiotape, when appropriate, refers the trainee to the response book for exercises which provide practice in the use of the concepts and strategies presented in the narrative. Typically, the general narrative depicts the module's content through stories and examples derived from the elementary school's curriculum. Each module's general objective and content are briefly described below. For more detailed information, refer to Appendix A.

Using Volunteers in the Classroom, Module 1

General objective: The trainee will be able to plan and implement procedures for an effective volunteer program.

Description: The story presents Mr. Scott and his experiences with volunteers in order to illustrate techniques for integrating volunteers into the schools and for establishing guidelines for volunteers' responsibilities. Illustrated skills include the planning of an orientation program for new volunteers and a design for anticipating and minimizing confrontations between volunteers and regular staff. The suggested techniques enable teachers of EMR children to make more effective use of volunteers by anticipating, reducing and/or eliminating potential problems.

Parents as Partners in Teaching Handicapped Children, Module 2

General objective: The trainee shall design and implement a system which will enable parents to actively participate in the tutoring of their EMR children.

Description: A storyline depicts Mrs. Merton, a relatively young teacher, learning about the value of parent-tutors and the methods of contacting, meeting with and training the parents to effectively work with their EMR children. The module presents a blueprint for organizing a parent-tutoring program including the skill development for ensuring a successful contact with parents and for designing a detailed plan for parent-tutoring training sessions.

Observing and Recording a Child's Behavior, Module 3

General objective: The trainee shall define a behavior observable in the classroom and design a recording system for observing that behavior.

Description: Through stories and examples the narration illustrates methods for defining behaviors that can be observed and depicts recording procedures for counting behaviors. The module also presents methods for analyzing infrequent but troublesome behaviors.

Informal Reading Inventory, Module 4

General Objective: The trainee shall be able to construct, administer, and interpret the informal reading inventory.

Description: The module presents the basic rationale for the use of the informal reading inventory and demonstrates methods of construction. Trainee activities include coding a child's performance, analyzing and scoring this performance, and interpreting the score.

Troubleshooting in Teaching Concepts, Module 5

General objective: The trainee will be able to describe perceptual and mediational processing and to indicate strategies to stimulate both types of processing.

Description: The module introduces the concept of diagnosing students' capacities in learning concepts through perceptual and/or mediational processing. The narration illustrates several methods for stimulating mediational processing through examples drawn from the elementary school classroom.

Teaching Reading to Handicapped Children, Module 6

General objective: The trainee shall be able to describe a variety of strategies in teaching reading to EMR children.

Description: The module presents a mixture of narration and dialogue on various strategies for teaching EMR children to read. The narration

covers the characteristics of handicapped learners which influence the teaching of reading, the elements of a reading program, and some approaches to teaching reading.

Improving Spelling Skills in Handicapped Learners, Module 7

General objective: The trainee will be able to match major types of written spelling errors with appropriate remediation techniques.

Description: The storyline presents Ms. Lokerson, an elementary teacher whose students exhibit a variety of spelling problems. The module delineates an approach for diagnosing the causes of spelling errors and for selecting an appropriate remedial technique.

A Decision-Making Model for Teaching the Handicapped, Module 8

General objective: The trainee will be able to use a decision-making model as a guide for planning instruction.

Description: The storyline depicts a teacher learning to use the decision-making model as a guide for planning instruction for one of his pupils. The response book presents a case study to be used by instructors according to the needs of their trainees. Nine problems based on the case study are suggested.

Designing Art Experiences: Body Concept, Module 9

General objective: The trainee shall be able to describe the level of maturity of a child's body concept as it is expressed in art work and to design art experiences to stimulate differentiation of body concept.

Description: The module portrays a systematic way to assess the body concept of EMR learners as the children express the concept in their art work. The unit illustrates a body concept scale for use in assessment,

provides practice in diagnosing body concept in various children's drawings, and presents art activities for improving the child's body concept.

Personalized Questions, Module 10

General objective: The trainee will be able to describe personalized questions and generate a set of personalized questions for a given lesson.

Description: The narration presents interviews with Drs. Lynch and Dalton who have performed research on personalized questions, and incorporates incidents from various teachers' classrooms as illustrations. The module provides practice in discriminating aspects of personalized questions, such as recognizing critical and irrelevant features and denoting suitable formats.

CHAPTER II. SUMMATIVE EVALUATION DESIGN

Intent and Rationale

The summative evaluation of the TIPS FOR TEACHERS modules was planned primarily to provide information as to the desirability of disseminating the modules to the field of special education. The designated users of the gathered information were determined to consist of four major audiences. The first group, the project officers and staff of the funding agency BEH, play an important role in determining what, if any, dissemination efforts should be undertaken. The second group consists of teacher trainers in special education. The trainers will make the decisions about acquiring and using the series should they become available. Trainees themselves compose the third audience, as the trainees may benefit from reactions of other trainees who have gone through the series. Finally, the CITH staff, developers of the modules, should benefit from the knowledge obtained from the evaluation results, as these results affect the design of future instructional modules.

Given these four groups of individuals who could benefit from the evaluation's results, four major decisions which should be influenced by the evaluation were identified. These were:

1. Should the ten instructional competency modules from the TIPS FOR TEACHERS series be disseminated to special education teacher training programs?
2. Should special education teacher trainers acquire and use modules out of the series?
3. Should special education trainees use the series?
4. Should modifications be made in training modules produced by CITH in the future?

Nine evaluation questions evolved from the four decisions. These questions were:

1. Are the content and skill areas covered by the ten instructional competencies modules of the TIPS FOR TEACHERS series important to include in the training of teachers of educable mentally retarded children?
2. Do the modules overcome the limitations of handouts as ancillary pedagogical devices?
3. Do teacher trainers in special education use the modules as adjunct materials in EMR methods courses when they are made available?
4. Do trainers demonstrate a positive attitude toward the modules after completion?
5. Do trainees use the material as instructional resources in the course?
6. Do trainees demonstrate a positive attitude toward the modules after completion?
7. Do trainees demonstrate knowledge of the modules' content upon completion?
8. Do trainees indicate increase in skill in using techniques covered by the modules upon completion?
9. What modifications can be made in future modules to increase their use or impact?

The answers to these questions should assist in providing a necessary data base for the decisions to be made by BEH staff, trainers, trainees, and CITH personnel regarding the dissemination of the modules.

The evaluation design developed to answer these nine questions

contained four phases. During the first phase, entitled "Initial Evaluations," the CITH staff summarized the results of the assessments pertaining to the dissemination questions derived from studies conducted during the modules' development. The second phase, called "Expert Review," consisted of a critique of the ten modules by a panel of experts. During the third phase, labeled "Use and Impact Study," special education faculty and students evaluated the modules after using the components in training settings. Finally, in the fourth phase, called "Users Survey," current owners of the modules completed a questionnaire focusing upon the use and impact of the purchased modules within the purchasers' settings.

Each phase of the evaluation focused on providing information for a slightly different subset of the evaluation questions. Table 1 provides an overview of the relationship between each phase and the evaluation questions. The shaded boxes indicate the evaluation questions touched upon during each phase. Every question contains information collected in at least two phases, thus providing multiple sources of validation of the results.

Table 1

Relationship Between Evaluation Phases and Evaluation Questions

Questions	Phases			
	I Initial Evaluations	II Expert Review	III Use & Impact Study	IV Users Survey
1. Importance of content and skills		■	■	
2. Overcome limitations of handouts		■	■	
3. Trainers' use of modules		■	■	■
4. Trainers' attitudes toward modules		■	■	
5. Trainees' use of modules	■		■	■
6. Trainees' attitudes towards modules	■		■	
7. Knowledge of content	■		■	
8. Skill in using techniques	■		■	
9. Desirable modifications	■	■	■	

A shaded box indicates that information was collected for the corresponding question during the phase indicated.

Design and Results from Phase I--Initial Evaluations

Development of the TIPS FOR TEACHERS modules comprised a two-year period (from January, 1973 to January, 1975). During this time span, formative and initial summative evaluations were implemented to assess various aspects of each module. Table 2 illustrates the type of formative and initial summative evaluation used to assess each module and denotes references for obtaining additional information. Table 2 illustrates that each module received some form of formative evaluation. Four modules received only an informal review, three a formal formative evaluation, and four modules went through a formal summative evaluation. For brevity and because the formative evaluation findings are not as directly relevant to the final summative evaluation objectives, descriptions of the formative evaluations are contained in Appendix B.

Four TIPS FOR TEACHERS modules received initial summative evaluations. The following discussion describes these studies as their evaluation objectives relate to the major decisions to be affected as a result of the final TIPS FOR TEACHERS assessment (i.e., should the module[s] be disseminated by BEH and should the module[s] be utilized by special education trainers and trainees). Each study's discussion focuses upon its purpose, design, results, and implications for dissemination. Those modules which underwent summative evaluations include "Parents as Partners in Teaching Handicapped Children," Module 2 (Stolovitch, 1975); "Informal Reading Inventory," Module 4 (Windell, 1975); "Decision-Making Model for Teaching the Handicapped," Module 8 (Williams, 1976). "Personalized Questions," Module 10 (Williams, 1976) received an incomplete evaluation (it was used as a control group's activity), but because the findings pertain to the final evaluation's purposes, an abbreviated discussion of the work is included.

Table 2

Summary Table of Initial Module Evaluations

Informal Review

MODULE NAME	VERSION EVALUATED	FORMATIVE EVALUATION	REVISIONS	SUMMATIVE EVALUATION OF SINGLE MODULE
1. USING VOLUNTEERS IN THE CLASSROOM		Informal Review		
2. PARENTS AS PARTNERS IN TEACHING HANDICAPPED CHILDREN		Informal Review		"From Models to Modules: Application of an Adapted Model for Instructional Development to the Design, Production and Evaluation of Audiovisual Training Modules" (Stolovitch, 1975)
3. OBSERVING AND RECORDING A CHILD'S BEHAVIOR Study 1	Summer 1973	"Formative Evaluation of the 'Observing and Recording a Child's Behavior' Module" Center working paper. (Brownsmith, Field & Frick, In Preparation)	Fall 1973	
Study 2	Fall 1973	"Effectiveness of Expert Opinion and Student Opinion in Formative Evaluation of Instructional Modules' Center working paper. (Brownsmith, Field, In Preparation)	Fall 1974	

Table 2

Summary Table of Initial Module Evaluations

MODULE NAME	VERSION EVALUATED	FORMATIVE EVALUATION	REVISIONS COMPLETED	SUMMATIVE EVALUATION OF SINGLE MODULE
4. INFORMAL READING INVENTORY	1973	Informal Review	Fall 1974	"Development and Evaluation of a Module to Train Special Education Teacher Trainees to Determine A Pupil's Instructional Reading Level" Center final report 9.31 (Windell, I., 1975)
5. TROUBLESHOOTING IN TEACHING CONCEPTS		Informal Review		
6. TEACHING READING TO HANDICAPPED CHILDREN	Fall 1974	"Effectiveness of Expert Opinion and Student Opinion in Formative Evaluation of Instructional Modules" Center working paper. (Brownsmith & Field, In Preparation)	Spring 1975	

Table 2

Summary Table of Initial Module Evaluations

MODULE NAME	VERSION EVALUATED	FORMATIVE EVALUATION	REVISIONS COMPLETED	SUMMATIVE EVALUATION OF SINGLE MODULE
7. IMPROVING SPELLING SKILLS IN HANDICAPPED LEARNERS		Informal Review		
8. A DECISION-MAKING MODEL FOR TEACHING THE HANDICAPPED Study 1	1973	"Formative Evaluation of a Decision-Making Model for Teaching the Handicapped" Center working paper. (Brown-smith & Field, In Prep-aration)	1974	
Study 2	1974			"A Comparison of Inservice Methods for Training Teachers to Comprehend and Implement the Decision-Making Model of Diagnostic Teaching" Center final report 9.32. (Williams, 1976)

Table 2

Summary Table of Initial Module Evaluations

MODULE NAME	VERSION EVALUATED	FORMATIVE EVALUATION	REVISIONS COMPLETED	SUMMATIVE EVALUATION OF SINGLE MODULE
9. DESIGNING ART EXPERIENCES		Informal Review		
10. PERSONALIZED QUESTIONS	1974	Informal Review		"A Comparison of Inservice Methods for Training Teachers to Comprehend and Implement the Decision-Making Model of Diagnostic Teaching" Center final report 9.32. (Williams, 1976)

Parents as Partners in Teaching Handicapped Children, Module 2

Purpose. The primary purpose of the study validated an instructional development nonprint model which had been adapted to the special requirements of producing audio-visual materials. The designated model was utilized in the creation of the "Parents as Partners" component. The instructional development model included evaluation of the module using subjects in intended-use settings. Project evaluation hypotheses relevant to this final report consisted of the following:

1. Learners attain competencies illustrated in the module's objectives after working through the module.
2. Attitudes of learners who have worked through the module are more positive toward the module's content than attitudes of learners who have not.

Design. Ninety subjects enrolled in the special education departments of Georgia State University, Atlanta; University of North Carolina, Ashville; and Western Carolina University, Cullowhee, participated in the study. Trainees represented the categories of undergraduates in special education, student teachers in special education, and inservice teachers. The study utilized a modified posttest-only "cross-over" design (see Figure 1) with subjects randomly assigned to two groups. Each group received one of two randomly assigned modules. After working through the assigned module, the subjects performed a criterion-referenced posttest on the content of both modules. After a suitable elapse of time, each group performed the other module and executed the common criterion-referenced posttest.

	First Testing		Second Testing	
Group A	Module I	Posttest on Both Modules	Module II	Posttest on Both Modules
Group B	Module II		Module I	

Figure 1. Experimental Design for "Parents as Partners" Module (Stolovitch, 1975, p. 94)

The "Parents as Partners" module and a module entitled "Instructional Games for Handicapped Children" comprised the two modules. Discussion focused upon the "Parents as Partners" unit as the other module was not included in the TIPS FOR TEACHERS series. The study obtained data from the following three sources:

1. An entry questionnaire which collected data on the subject's background, prerequisite skills, and previous experience with audio-visual modules.
2. An attitude scale which tapped the trainees' attitudes toward the content and format of the module. Subjects completed the attitude scale immediately before and after viewing each module.
3. A criterion-referenced posttest which measured the attainment of the content objectives of the modules.

Results. Both of the evaluation hypotheses were confirmed. Trainees who worked through the "Parents as Partners" module scored significantly higher on the criterion test on parent tutoring as compared to those who worked through the instructional games module ($p < .01$). In addition, there was a significant improvement ($p < .01$) between pre- and posttest scores. Attitudes toward parent tutoring of subjects who worked through the "Parents as Partners" module were significantly higher than those who did not work through this module ($p < .01$).

Implications. In relation to the major questions asked by the final evaluation study, the project lent tentative support for dissemination and use of the module because trainees acquired the designated competencies and exhibited more positive attitudes toward the module's content as compared with attitudes of learners who did not view the module.

Informal Reading Inventory, Module 4

Purpose. The project developed a self-instructional teacher training module which described the development and use of the Informal Reading Inventory (IRI) and tested the effectiveness of that module. The module evaluated was an earlier version of the present module without a visual presentation. The project assessed whether the module assisted special education trainees in determining the instructional reading level of exceptional children. The project's hypotheses relevant to the present evaluation were:

1. Trainees who receive the IRI self-instructional module are more proficient in their knowledge of and ability to utilize an IRI as compared to trainees who do not receive the module.
2. Trainees are more proficient in their knowledge of and ability to utilize an IRI after completing the module than they are before they complete the module.
3. Knowledge and skill exhibited by trainees who receive the IRI training module is maintained one week following the termination of the treatment.
4. The performance of trainees assessed immediately following completion of the module is the same as that of trainees assessed one week after completion of the module.

Design. The experimental sample consisted of 62 students enrolled in three

special education methods classes offered through Indiana University. Trainees within each of the classrooms were randomly assigned to either an experimental (Group A) or a control (Group B) group. The evaluation paradigm consisted of a cross-over experimental design (see Figure 2). Group A received the module and the posttest during the first week of evaluation, while Group B (control) received the posttest only at the end of week one. The treatment (the module) was then "crossed over" and replicated with Group B during week two, with a posttest administered at the end of the week to both Groups A and B.

Weeks	Week One		Week Two
Group A (N = 31) R	X_1	O_1	O_2
Group B (N = 31) R		O_3 X_2	O_4

R = Random assignment of subjects

X_1 = Treatment (Experimental subjects received module training)

X_2 = Treatment (Control subjects received module training)

O_1 = Posttest measure (immediately after treatment)

O_2 = Posttest measure (one week after treatment)

O_3 = Serves two purposes: (a) posttest control measure for X_1; and (b) pretest measure for X_2 replication of treatment.

O_4 = Posttest (observation) measure

Figure 2. Experimental Design for "Informal Reading Inventory" Module (Windell, 1975, p. 105).

The evaluation questionnaire, which trainees completed after working through the module, consisted of seven major sections. Each section dealt with one particular aspect of the IRI module. The covered aspects included: (a) objectives, (b) tests, (c) subject matter content, (d) relevance to teachers, (e) recommended procedures for module utilization, (f) attitudes toward the module, and (g) suggestions for modifications.

Results. Analyses confirmed the four hypotheses. A comparison of the mean test scores for the experimental and the control groups at the end of the first week revealed that experimental subjects received a significantly higher mean test score ($p < .01$). When the treatment was "crossed over" (second week) and administered to the control group, a comparison of the mean posttreatment test scores for the experimental and control groups revealed that the first week performance differences between the groups had been erased and the groups were approximately equal. Comparison of the control group's pre- and posttreatment test scores confirmed a significant increment ($p < .01$) in the group's pre- and posttreatment test score. Finally, the delayed posttreatment did not prove to be significantly different from the posttreatment measure which was administered to that group directly after treatments. Since there were no significant differences between the two tests, the study concluded that the module's effect was maintained. From these results, the researchers concluded that the IRI module produced reliable changes in trainees' knowledge and skill in the use of techniques for determining the instructional reading level of exceptional pupils.

Implications. Because the evaluation revealed that working through the module increased the knowledge and ability of trainees to utilize an IRI, the results implied that the module could effectively assist teacher training

programs in developing IRI skills in their students. Thus, the findings lended tentative support to the dissemination of the module by BEH and indicated that the module should be utilized by special education trainers and trainees.

A Decision-Making Model for Teaching the Handicapped, Module 8

Purpose. The project investigated whether teachers could learn to identify and manage children with learning difficulties through utilization of the module; determined whether the knowledge obtained from the module transferred to the teacher's classroom behavior; and examined the extent of inservice support needed for maximal comprehension and implementation. The study's hypotheses relevant to the final evaluation's objectives comprised the following:

1. Teachers participating in the module on decision-making will understand the decision-making process significantly better than teachers not participating in the module.
2. Teachers participating in the module on decision-making and receiving follow-up support in the form of a consultant or checklist will understand the decision-making process better than teachers participating in the module alone.
3. Teachers participating in the module and receiving weekly visits from a consultant will understand the process better than teachers participating in the module and receiving a weekly checklist of activities.
4. Teachers participating in the module will implement components of the decision-making process more often than teachers not participating in the module.
5. Teachers participating in the module and receiving follow-up support will implement more components of the decision-making process than

teachers participating in the module only.

6. Teachers participating in the module and receiving weekly visits from a consultant will implement the process more than teachers participating in the module and receiving a weekly checklist of activities.

Design. Fifty-nine inservice teachers were randomly assigned to one of four groups, each group representing a specific inservice format. The three experimental groups consisted of: (1) teachers viewing the module on decision-making; (2) teachers viewing the module on decision-making and receiving a weekly self-monitoring checklist for six weeks; and (3) teachers viewing the module and interacting with a consultant for six weeks. The fourth group of teachers, the control group, viewed the module entitled "Personalized Questions." Seven weeks after the modular presentations, two dependent measures were administered to the teachers. Comprehension was evaluated through answers to questions about a simulated case study, and implementation was assessed through interview schedule.

Results. The data analysis indicated that teachers who viewed the module on decision-making evidenced significantly greater comprehension and implementation of the decision-making process than control teachers ($p < .001$). The level of comprehension and implementation was significantly increased if the teachers received some form of follow-up to the module ($p < .001$). The type of follow-up (a checklist or a consultant) did not significantly influence the level of comprehension or implementation.

Implications. In relation to the dissemination questions explored by the final evaluation study, the findings lent tentative support to the module's dissemination by BEH and use by special education trainers and trainees because

the use of the module promoted greater comprehension and utilization of decision making behaviors by teachers in classrooms. The study also indicated that the teachers are more likely to implement decision-making strategies if the module is used in conjunction with follow-up support (either a checklist or a consultant).

Personalized Questions, Module 10

The module, "Personalized Questions " was administered to the control group included in the preceding evaluation paradigm assessing the "Decision-Making" module. Although the "Personalized Questions" unit did not undergo extensive evaluation, data were gathered from subjects reviewing the "Decision-Making" module.

Seven weeks after viewing the "Personalized Questions" module, the fourteen control group subjects responded to a questionnaire pertaining to the teachers' attitudes toward modular presentation. Most teachers in the control group expressed positive opinions about the module and gave the module significantly more positive ratings ($p < .001$) than teachers in the group reviewing the "Decision-Making" module. In addition, the teachers consistently rated the "Personalized Questions" model as practical, clear, and relevant. These opinions contrasted significantly with those expressed by the teachers viewing the "Decision-Making" module: practical, $p < .001$; clear, $p < .01$; relevant, $p < .05$. The teachers also indicated significantly more than ($p < .05$) than the other groups that they attempted to implement the personalized questioning technique in their classrooms.

Although the above findings are not extensive enough to determine whether the module should be disseminated, the results do indicate that the module

receives positive ratings when used by teachers and that the module promotes the self-reported implementation of personalized questions by teachers in classroom settings.

Design of Phase II -- Expert Review

Population. The participants in the Expert Review conference consisted of 14 special education teacher trainers. CITH evaluation personnel selected the experts from training institutions with which the Center's staff had established contacts during the two years of module development. Essential criteria for participation in the Expert Review entailed (a) a willingness to evaluate the modules and provide written feedback, and (b) willingness of one faculty member to go through the Instructional Development Training Modules. The final selection of experts attempted to provide a variety of different types and sizes of preservice training programs in different geographic locations. The only restriction imposed entailed the transportation cost. Thus, training programs in the Far West were excluded.

CITH personnel selected the final training sites in January of 1976. Nine of the ten Use and Impact evaluation sites sent a representative to the conference. The experts came from the following colleges and universities:

Appalachian State University, Boone, North Carolina

Bowling Green State University, Bowling Green, Ohio

Indiana University at South Bend, South Bend, Indiana

Marymount College of Virginia, Arlington, Virginia

St. Joseph College, West Hartford, Connecticut

George Peabody College, Nashville, Tennessee

Texas Tech University, Lubbock, Texas

State University College at Buffalo, Buffalo, New York

University of Denver, Denver, Colorado

University of Florida, Gainesville, Florida

University of Kentucky, Lexington, Kentucky

Valparaiso University, Valparaiso, Indiana

Measures. The Expert Review study used two instruments (see Appendix C for samples). The module questionnaire, entitled "Expert Review-Module Questionnaire" and developed by CITH staff, obtained indications of the experts' (a) attitudes as to the suitability of an individual module for courses currently taught, (b) views of the importance of the skills and content covered in the module, and (c) views as to whether the module overcame the limitations of handouts. The experts completed this questionnaire after going through each of their assigned modules.

The series questionnaire designated "Expert Review-Series Questionnaire" was developed by CITH staff to obtain the experts' overall views of the series. Specifically, it procured the experts' views of (a) the overall importance of the content and skills of the series, (b) the desirability of dissemination and potential use of the series, and (c) the desirable modifications for the series. The experts completed this questionnaire after viewing all of their assigned modules.

Procedures. All 14 of the experts participated in a week-long conference held from February 16 to February 20, 1976 on the Indiana University campus in Bloomington. The purpose of the conference was two-fold as the experts evaluated the TIPS FOR TEACHERS series and also received instruction in the development of teacher training materials (described in Thiagarajan, 1976).

Review of the TIPS FOR TEACHERS series occupied two days of the experts' time. Each expert critiqued two to three modules from the series. Table 3 summarizes those modules which each expert reviewed. After the expert viewed each assigned module in its entirety, the expert completed a questionnaire for that module. After the expert observed and evaluated all of the assigned modules, the expert completed the questionnaire focusing upon the series as a whole.

The experts then convened as a group to discuss the evaluation of the series in depth. This discussion was videotaped so that the important aspects of this group evaluation could be analyzed.

Design of Phase III -- Use and Impact Study

Population. The subjects for this study consisted of 481 trainees and 17 trainers located at ten universities and colleges. The trainees were enrolled in special education and regular education courses. Table 4 provides a summary description of size (e.g., number of special education students, faculty and total number of students attending the institution) and location for each site. Figure 3 delineates the distribution of the trainees' chronological age and reveals that the greatest number of trainees using the modules were in their early twenties (specifically, 20 to 22 years). Figure 4 presents the distributions of student characteristics by sex, grade level, and major, and indicates that the greatest majority of students using the modules were female undergraduates majoring in special education. Figure 5 denotes the distribution of module by course content. Those courses whose content covered EMR and noncategorical methods composed the two largest groups of

Table 3

Summary of Modules Assigned and Reviewed by Experts

(X indicates module was assigned and reviewed)

Module	1	2	3	4	5	6	7	8	9	10
Trainer										
1			X			X				
2		X			X			X		
3			X							X
4				X			X			
5				X						X
6	X			X				X		
7			X				X			X
8	X			X				X		
9							X	X		
10	X			X				X		
11		X				X				
12			X				X			X
13				X		X				
14		X			X					
Number of Experts Viewing Module	3	3	4	6	2	3	4	5	0	4

Table 4

Description of Training Programs

Training Program	Special Education Enrollment Undergrad.	Special Education Number Graduate	Number of Faculty	Offerings Courses	University Enrollment	Location	Developer Visited
Appalachian State University	500	50	14	35	10,000	Boone, North Carolina	
Bowling Green State University	207	460	18	81	17,000	Bowling Green, Ohio	
Indiana University at South Bend	9	0	4.5	15	8,700	South Bend, Indiana	
Marymount College of Virginia	15	0	3	3	650	Arlington, Virginia	X
St. Joseph of West Hartford	180	300	7	22	600	West Hartford, Connecticutt	
St. Mary's College	14	0	2	4	3,700	Notre Dame, Indiana	

Table 4

Description of Training Program

Training Program	Special Education Enrollment Undergrad.	Special Education Enrollment Graduate	Number of Offerings Faculty	Number of Offerings Courses	University Enrollment	Location	Developer Visited
University of Buffalo	480	177	15	19	26,000	Buffalo, New York	X
University of Denver	50	225	5	18	7,000	Denver, Colorado	
University of Florida	150	137	12	31	30,000	Gainsville, Florida	X
University of Kentucky	--	--	25	34	37,299	Lexington, Kentucky	
Valparaiso University	17	18	3	3	4,300	Valparaiso, Indiana	X

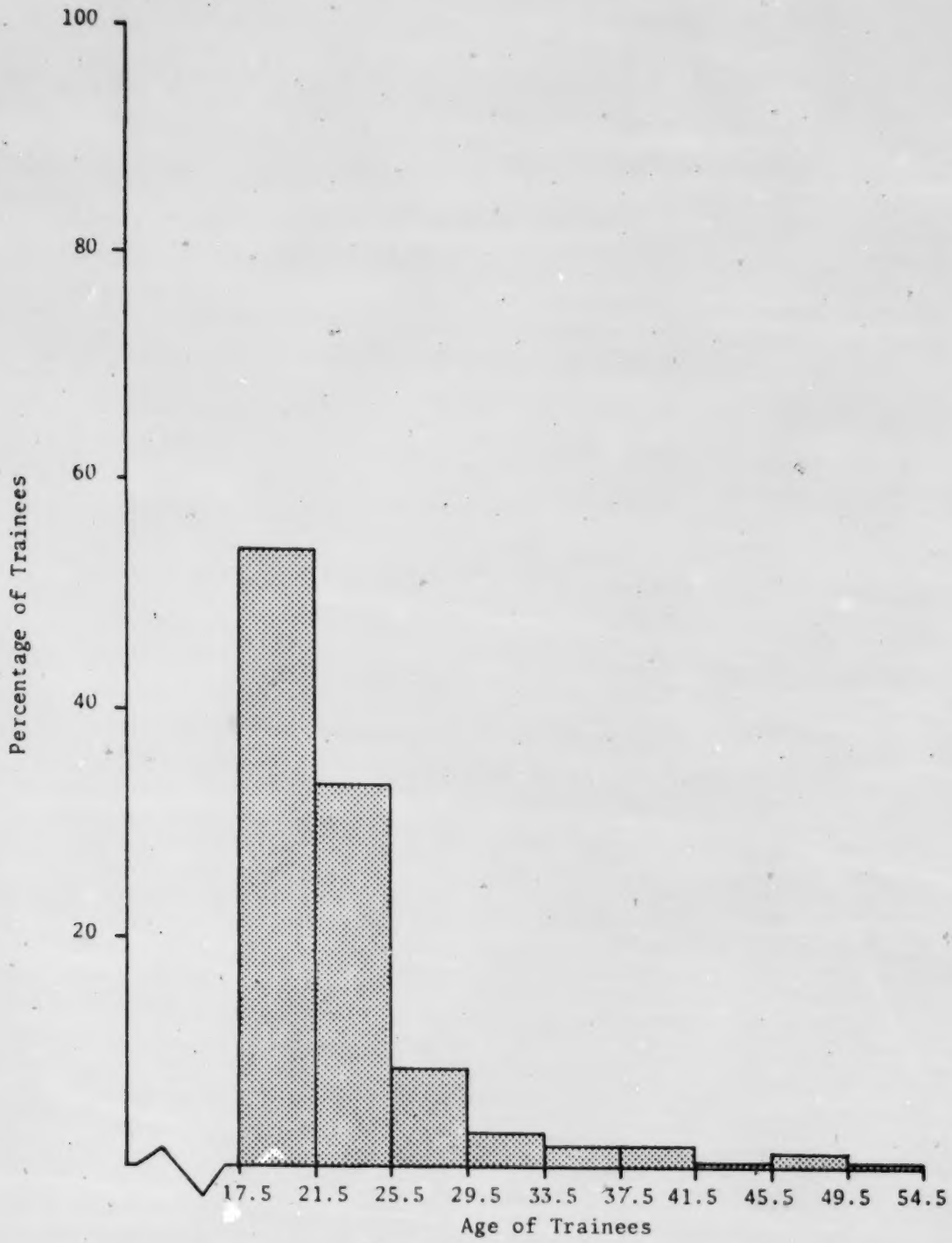


Figure 3

Age of Trainees: Bar Graph of Percentage Distribution

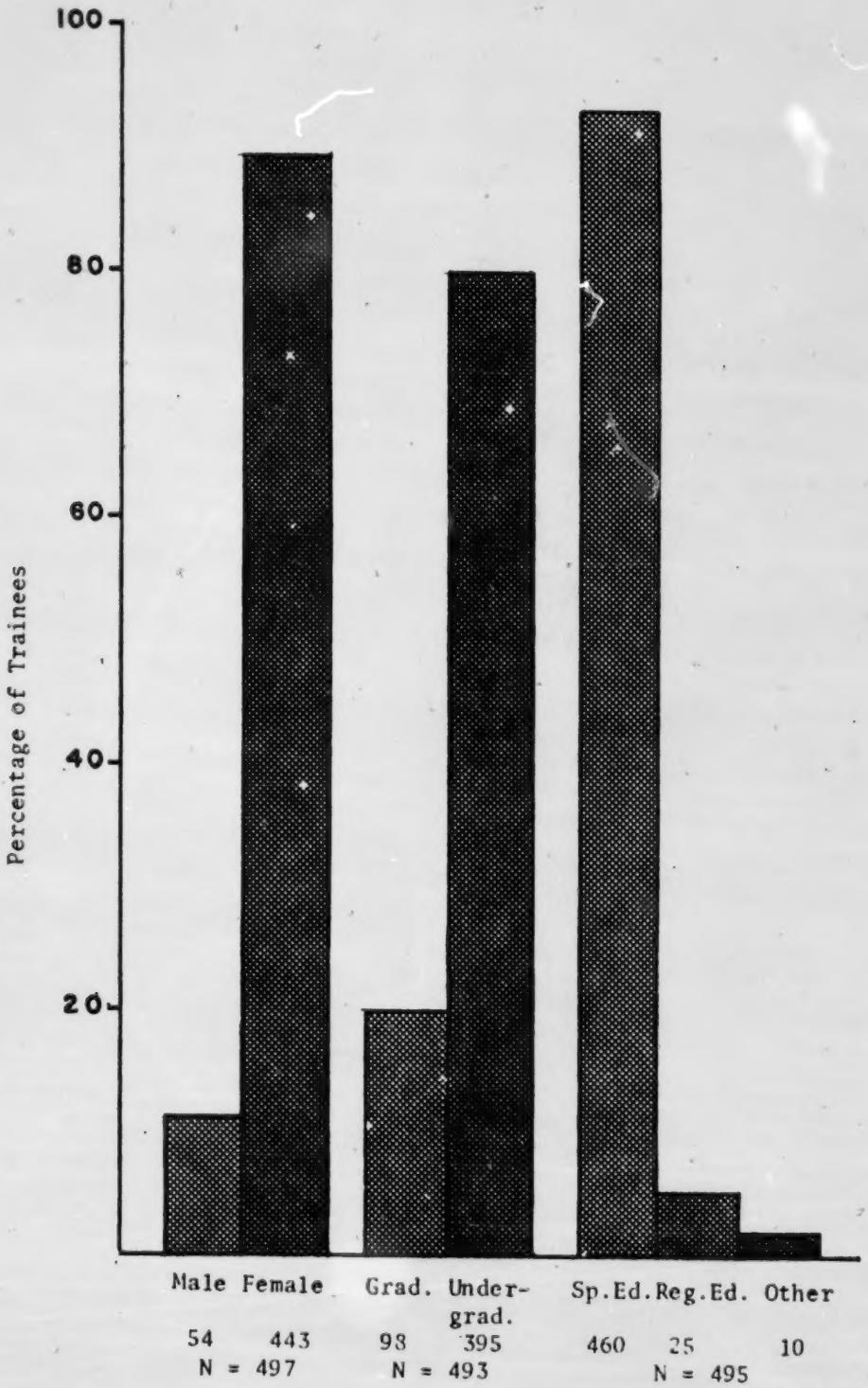


Figure 4

Sex, Level and Major of Trainees: Bar Diagram of Percentage Distribution

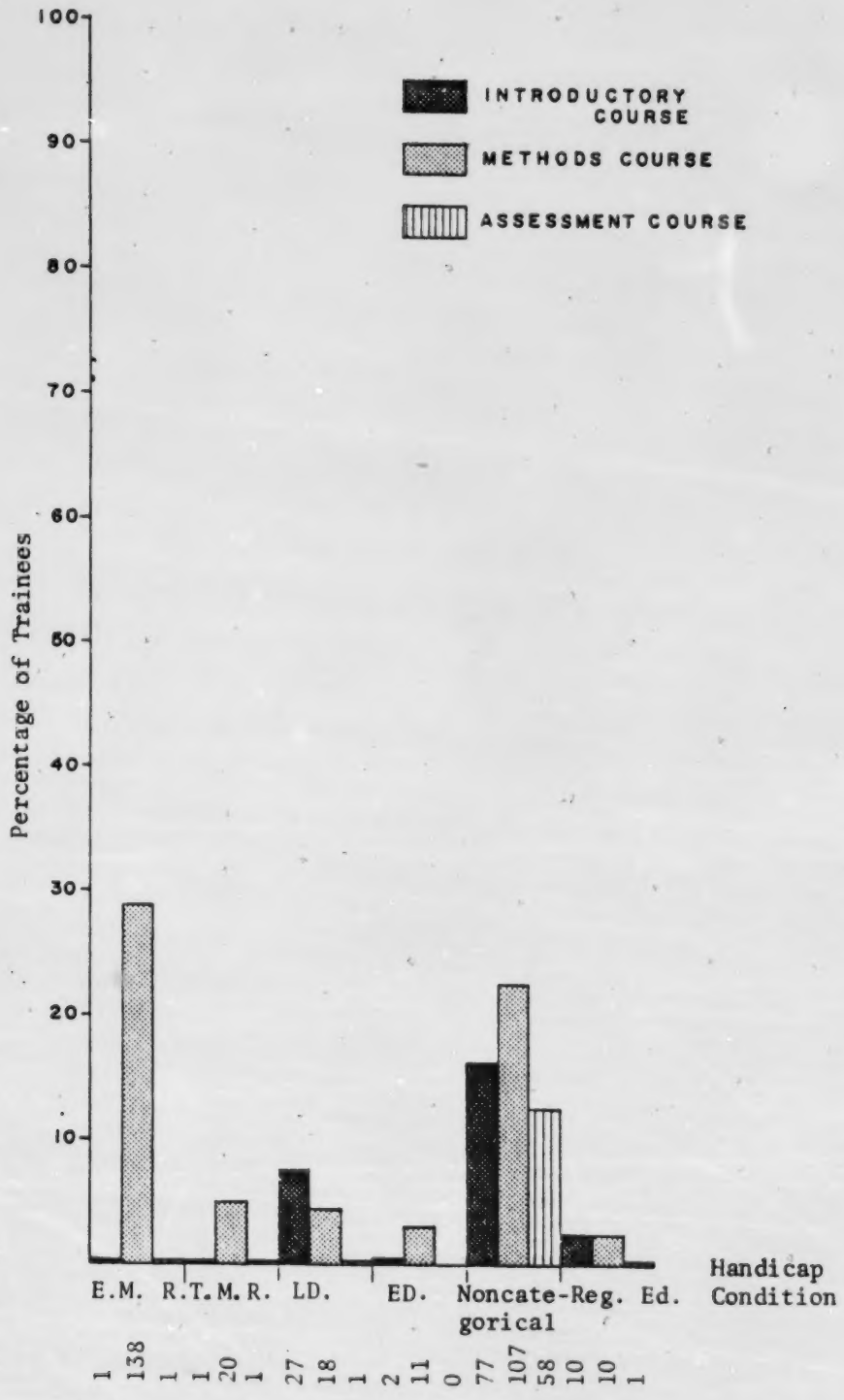


Figure 5

Courses in Which Trainees Used Modules: Bar Diagram of Percentage Distribution

users. Therefore, female undergraduates between the chronological ages of 20 and 22 and enrolled in EMR or noncategorical methods courses composed the majority of the trainee population using and evaluating the TIPS FOR TEACHERS modules for the present study.

Measures. The CITH staff developed an evaluation questionnaire for each of the ten modules in the series. Appendix D supplies an example of each of the instruments. The questionnaires' first section, covering pages one through five, is identical for all modules. The CITH staff developed this section over three years to obtain indications of (a) attitudes towards the module, including importance of content and preferred mode of learning; (b) problems encountered using the module; (c) perceived increase in knowledge and skills; and (d) suggested modifications. The questionnaires' second section tests a student's mastery of the content covered by that specific module, and thus the format differs for each module.

In addition, the CITH staff developed a faculty questionnaire entitled "Faculty Users in Field Sites" (see Appendix E for sample) which trainers filled out after their trainees had completed the modules. This questionnaire provided information as to (a) trainer use of modules, (b) importance of the content and skills, (c) desirability of dissemination and potential use of the series, and (d) desirable modifications of the series.

Procedures. During the Expert Review Conference, trainers who would serve as contact persons for the Use and Impact Study attended a two-hour evening session during which the procedures for the Use and Impact Study were defined. These trainers received an overview of the Use and Impact Study's purposes which emphasized the evaluation paralleling as closely as possible the environment in which the modules would be utilized if purchased by preservice training programs in special education. Therefore, the modules

were made available to all faculty and students in the participating departments to use as the trainers and trainees wished. Thus, no requirements were established for use of the modules except for the request that if anyone used a module, the trainer and trainee would provide written feedback.

Each trainer was provided a packet similar to that which the trainees would pick up when using a module. The packets were labeled according to module and included an instruction sheet (see Appendix F), the response book for that module, and the evaluation questionnaire for that module (samples contained in Appendix D). The following nine points provided an overview of the procedures used in carrying out the Use and Impact Study:

1. ARRIVAL OF MATERIALS. United Parcel Service or a CITH staff member delivered the materials. The number of copies of the response book depended upon the estimate given by the contact person. Additional copies were available upon request.
2. SET-UP AND STORAGE. The contact persons arranged the set-up and storage of the materials to fit individual department needs.
3. FILMSTRIP-CASSETTE MACHINES. For minor repair or additional machines, the contact person utilized the local media service or, if necessary, contacted CITH.
4. SCHEDULING. As a faculty member of the local institution, the contact person assisted in establishing a schedule for use of the modules.
5. STUDENT USE. The evaluation procedures requested that any trainee going through a module fill out the accompanying questionnaire afterwards. The contact person determined all other variables (e.g., selection of trainees, choice of modules, location of use, type--if any--of feedback, large/small group or individual use, etc.).

6. RETURN OF STUDENT QUESTIONNAIRE. Trainees deposited the questionnaire in a drop box provided by CITH. When full, the contact person mailed the accumulated forms to CITH.
7. RETURN OF FACULTY QUESTIONNAIRES. Trainers of students who used a module were asked to complete one faculty questionnaire and mail it back to CITH. The trainers who scheduled several modules mailed the questionnaire after completion of all of the modules.
8. RETURN OF MACHINES. The contact person saved the boxes in which the machines were sent to the local institution and returned the machines in these boxes upon the completion of the Use and Impact Study.
9. RETURN OF MATERIALS. The contact persons returned the filmstrips, audiotapes, and unused response books to CITH in the containers in which the materials arrived at the local institutions.

In addition to the above procedures and prior to the Expert Review conference, four of the eleven Use and Impact Study sites were designated as "developer-based sites." These four sites received two visits from a CITH evaluation member, one at the beginning and one at the termination of the study. The following considerations determined the implementation of the "developer-based" variation: (1) to perceive if personal contact of CITH personnel would affect usage of the modules and (2) to receive in-depth, first-hand data focusing upon the use and impact of the modules from a sample of the sites. The four selected sites were:

Marymount College of Virginia, Arlington, Virginia
State University College at Buffalo, Buffalo, New York
University of Florida, Gainesville, Florida
Valparaiso University, Valparaiso, Indiana

On these four campuses at the study's conclusion, CITH evaluation personnel conducted structured interviews with trainers and trainees during the last week of spring semester classes. The trainee interview (see Appendix G for format sample) focused upon the trainees' assessment of the TIPS FOR TEACHERS series as a whole since this information had not been gathered from the trainee population by any other method. Interviews with the trainers used the "Faculty Users in Field Sites" questionnaire (presented in Appendix E) but, as with the trainee interviews, the inquiry focused upon the open-ended questions eliciting positive and negative comments about and modifications for the modules.

It should be noted that starting times, arrival dates of materials, number of modules utilized, etc., depended upon the individual site. In part, the fluctuation of use depended upon each site's initiation and termination dates for the spring semester. Roughly, the dates for beginning and ending the Use and Impact evaluation covered a period from March, 1976 through June, 1976. CITH received the final evaluation information included in this report on July 12, 1976.

Design of Phase IV -- User's Survey

Population. The population consisted of universities, public school systems, public agencies and individuals who had purchased one or more of the TIPS FOR TEACHERS modules during the two years of module development. These consumers comprised 25 entities located throughout the United States.

Measures. CITH evaluation personnel designed an instrument entitled "Current Owners Questionnaire" (see Appendix H for sample). This questionnaire assessed the type of local trainee user and the impact of the purchased module(s) as well as the purposes for module selection.

Procedures. The evaluation team compiled a list of consumers who had purchased one or more (TIPS FOR TEACHERS) modules from the records of the Dissemination and Retrieval Unit of CITH. The evaluation staff then contacted the purchasers by mail with a letter requesting comments to aid in the determination of disseminating the module(s). Due to the limited response, three letters were submitted on April 19, May 27, and July 1, 1976 (see Appendix I). The evaluation staff then analyzed the returned questionnaire responses.

CHAPTER III. RESULTS

The results section of this report summarizes the findings of the Expert Review and the Use and Impact Studies. Data from the User's Survey were not incorporated because only seven questionnaires were returned and, of these seven, five were incomplete. The respondents for the five incomplete forms stated that the modules had not as yet been put into use. Table 5 summarizes the dissemination implications derived from Phase I which were presented in the previous section under the title, "Design and Results from Phase I -- Initial Evaluations." In presenting the findings from the two studies, an attempt is made to provide a summary of meaningful information which pertains directly to each of the evaluation questions. If all the completed and possible analyses of the data were included, this section would be so lengthy as to preclude its use to the readers. Therefore, the discussion is so organized that the analysis centers around each of the major evaluation questions. Graphic representation of the data is provided to help the reader quickly grasp the results and to aid the decision makers in providing a clear picture of what was found about the series.

Each evaluation question (except the knowledge and skill questions, which were combined) represents a subsection of this report, with the expert Review and Use and Impact results integrated as fully as possible to answer the question. With the Use and Impact Study, two types of analysis are given; a descriptive analysis of the trainee questionnaires which were returned, and an inferential analysis among the ten modules. The sample for the second analysis is a subset of the total responses -- selected in such a way that each person is represented only once, regardless of how many modules s/he viewed.

Table 5

Summary of Dissemination Implications from Phase I -- Initial Evaluations

MODULE	STUDY	IMPLICATIONS FOR DISSEMINATION
PARENTS AS PARTNERS IN TEACHING HANDICAPPED CHILDREN, MODULE 2	Stolovitch, 1975	Supported Dissemination. Trainees acquired designated competencies and exhibited more positive attitudes toward the module's content as compared with attitudes of learners who did not view the module.
INFORMAL READING INVENTORY, MODULE 4	Windell, I., 1975	Supported Dissemination. Working through the module increased the knowledge and ability of trainees to use an IRI.
DECISION-MAKING MODEL FOR TEACHING THE HANDICAPPED MODULE 8	Williams, 1976	Supported Dissemination. Use of module promoted greater comprehension and utilization of decision-making behaviors by teachers in classrooms.
PERSONALIZED QUESTIONS, MODULE 10	Williams, 1976	Tentatively Supported Dissemination. (Used only activities for control group) Module receives positive ratings when used by teachers and promotes the self-reported implementation of personalized questions by teachers in classrooms.

This was done by randomly selecting one of the modules a person viewed if s/he viewed more than one. If the person viewed only one module, then her or h[illegible] questionnaire for that module was included.

The data on the Expert Review were not analyzed for inferential purposes, as the number of subjects involved was too few to permit generalizability.

Following the presentation of the results for each evaluation questionnaire, a summary of the results across all ten modules for all eight questions is given.

Importance of Content and Skills Area

Whether the content and skill areas covered by each of the ten instructional competencies modules of the TIPS FOR TEACHERS series are important to include in the training of teachers of educable mentally retarded children is indeed an important question. If verified, it supports the importance of the content covered by these modules. If nullified, it calls into question the needs assessment procedures used to determine content areas of the series.

In the Expert Review phase, the experts unanimously agreed for almost all of the modules that the content warranted inclusion in EMR methods courses. However, one of the experts felt that the content of "Parents as Partners in Teaching the Handicapped" (Module 2) did not contain sufficiently relevant subject matter to warrant inclusion in the series.

In the Use and Impact Study, all of the 17 trainers who returned the "Faculty Users Questionnaire" indicated that the content and skills covered in the series merited inclusion in EMR methods courses. For other handicapped pupils, all of the trainers again approved the inclusions.

Ninety-six percent of the trainees in the Use and Impact Study indicated that the content of the module they used was relevant for teaching handicapped

children. Figure 6 summarizes the trainees' ratings of content importance. These ratings revealed slight differences between modules, as 99% of the trainees endorsed the content importance of "A Decision-Making Model for Teaching the Handicapped" (Module 8) and of "Personalized Questions" (Module 10), whereas 92% approved the content importance of "Designing Art Experiences" (Module 9). However, the differences between modules based upon the selected one-module-per-trainee sample was nonsignificant at the .05 level as indicated by a chi square test.

To acquire additional data as to the relevance of the content and skills presented in the TIPS FOR TEACHERS series, trainees were asked if they planned to use the techniques and content from the modules in teaching handicapped students. Summarizing the selected trainee sample responses across all modules, 14.4% indicated they planned to use all aspects, 83.5% some aspects, and 2.1% no aspects of the techniques and content covered in the modules they viewed. Figure 7 summarizes the trainees' responses by module, indicating planned use of the modules' content and skills. Again, differences existed between modules. For example, 34% of the trainees viewing "Teaching Reading to Handicapped Children" (Module 6) responded that they planned to use all the illustrated techniques and content, while for the component "Imporving Spelling Skills in Handicapped Learners" (Module 7), only 8% cited planned use of all techniques. However, a chi square test revealed nonsignificant differences between modules at the .05 level.

In summary, the data derived from the Expert Review and from the Use and Impact studies suggest that the content and skills covered by each module are important for inclusion in EMR methods courses. The data also imply that the content and skills covered in the modules may be important to include

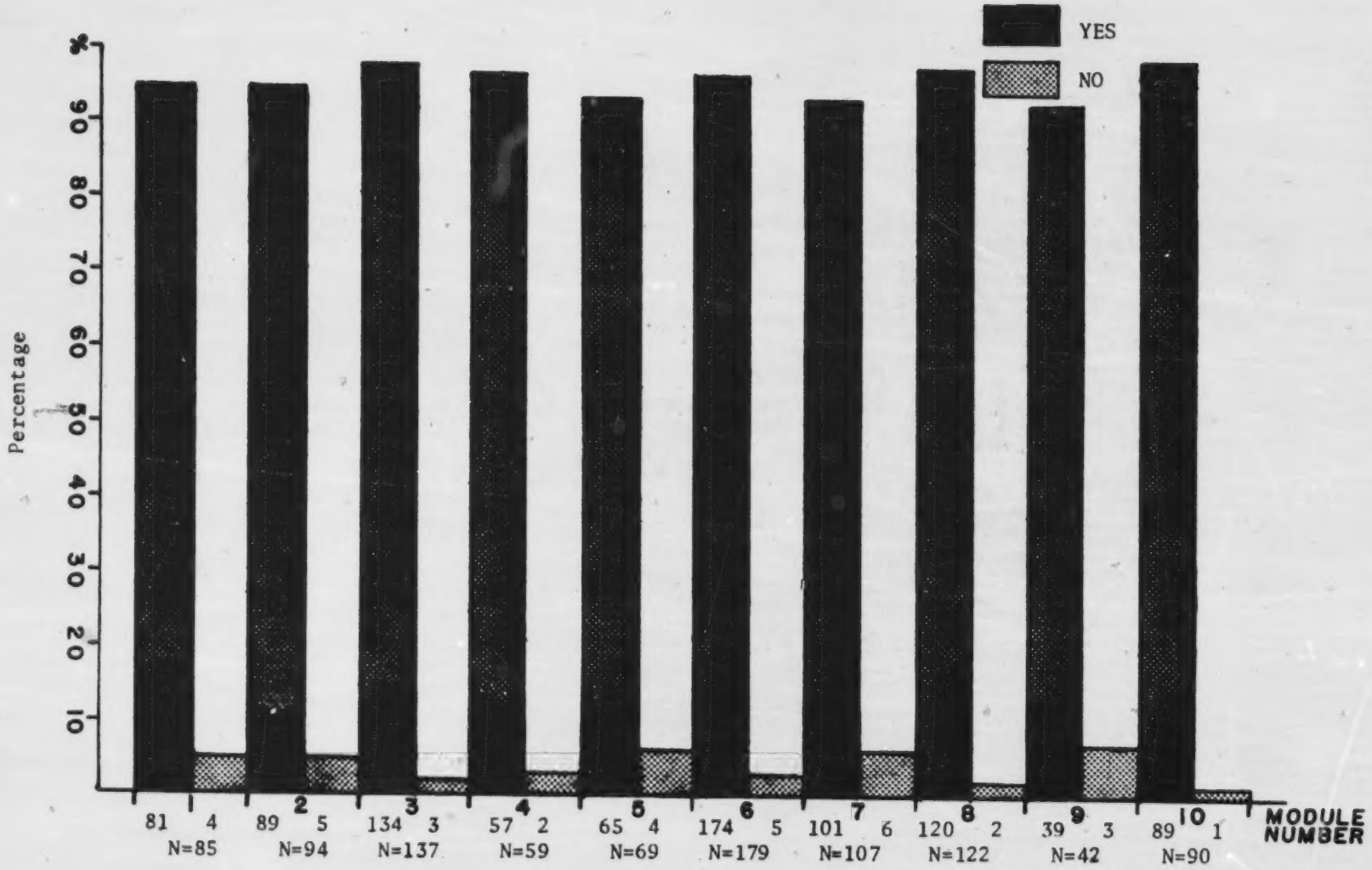


Figure 6

Content Importance: Bar Diagram of Percentage Distribution

Figure 7

Planned Use of Module Content: Bar Diagram of Percentage Distribution

in methods courses which deal with other handicapping conditions.

Overcoming the Limitations of Handouts

A major tenet in module development focused upon the series overcoming certain limitations of the handout format. Thus, each module was designed to include specific behavioral objectives, multisensory format, active trainee participation through the use of the response book, feedback on attainments, and criterion-referenced testing.

To determine whether the modules did indeed overcome the limitations, information was gathered from the Expert Review phase and from the Use and Impact Study. To assess the superiority of module characteristics over handout attributes, the experts, trainers, and trainees checked "yes" or "no" as to whether the module format overcame the following handout limitations:

1. Handouts lack specification of skills in behavioral terms.
2. Handouts are limited to print medium.
3. Handouts give trainees little opportunity for trainees to engage in instructional skill development.
4. Handouts give no feedback to trainees on skill attainment.
5. Handouts are not criterion-referenced to teacher performance.

In the Expert Review study, the majority of experts viewing each module felt the modules overcame the five limitations of the handouts. Because the expert sample critiquing each module was so small (average n equals three), generalizations can not be drawn as to module differentiation in relation to format limitations. However, Table 6 depicts the frequencies for each limitation across each module as perceived by the experts. It can be seen that only "Teaching Reading to Handicapped Children" (Module 6) revealed potential problems. Two out of the three experts indicated that the module did not

Table 6

Expert Opinion of Module Format vs. Handout Format

Module number	1		2		3		4		5		6		7		8		10	
Items	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No
Handout lacks specification of skills in behavioral terms	3	0	1	1	4	0	6	0	2	0	1	2	2	2	4	0	4	0
Handouts are limited to print medium	2	1	2	0	4	0	4	2	2	0	3	0	4	0	3	1	4	1
Handouts give trainees little opportunity to engage in instructional skill development	2	1	2	0	3	1	4	2	2	0	2	1	4	0	3	1	4	0
Handouts give no feedback to trainees on skill attainment	2	1	1	1	4	0	5	1	2	0	3	0	4	0	3	1	4	0
Handouts are not criterion-referenced to teacher performance	2	1	1	1	4	0	4	2	2	0	2	1	4	0	3	1	4	0

overcome limitation 1--specification of skills in behavioral terms. Possibly, the experts felt that many instructors include the specification in their handouts for this type of content.

After using the modules, trainers indicated whether the series of modules overcame the five limitations of handouts. Table 7 provides a display of the percentage of trainers who indicated that the modules overcame each of the limitations. Ninety-four percent of the trainers (out of a total of 17) indicated that the modules overcame limitations 2 (printed medium), 3 (skill development) and 5 (criterion-referenced). Eighty-eight percent of the trainers agreed that handouts gave no feedback to trainees on skill attainment and hence the modules were superior. However, only 76% of the trainers indicated the modules overcame limitation 1 (specification of skills). Again, this may be due to the fact that some of the trainers use handouts which do specify skills in behavioral terms, as was indicated by several experts attending the Expert Review conference.

In addition, trainees indicated their preference for instructional format with reference to the following three options: (1) reading a 3- to 5-page handout, (2) listening to a 15- to 20-minute lecture, and (3) going through the module. For eight of the ten modules (see Figure 8) over two-thirds of the trainees viewing the modules stated they would have preferred learning the material by going through the module. For "Troubleshooting in Teaching Concepts" (Module 5), only 52% of the trainees preferred the module, with 28% preferring the lecture and 20% the handout. As the figure points out, "Improving Spelling Skills in Handicapped Learners" (Module 7) has more serious problems as a preferred learning format. Only 46% of the trainees preferred the module format. Twenty-nine percent would choose handouts and 24% of the trainees preferred the lecture. Hence, the data imply that the content inherent in "Improving Spelling Skills in

Table 7

Trainer Opinion of Module Format Versus Handout Format

	Yes	No
1. Handouts lack specification of skills in behavioral terms.	76%	24%
2. Handouts are limited to print medium.	94%	6%
3. Handouts give trainees little opportunity to engage in instructional skill development.	94%	6%
4. Handouts give no feedback to trainees on skill attainment.	88%	12%
5. Handouts are not criterion-referenced to teacher performance.	94%	6%

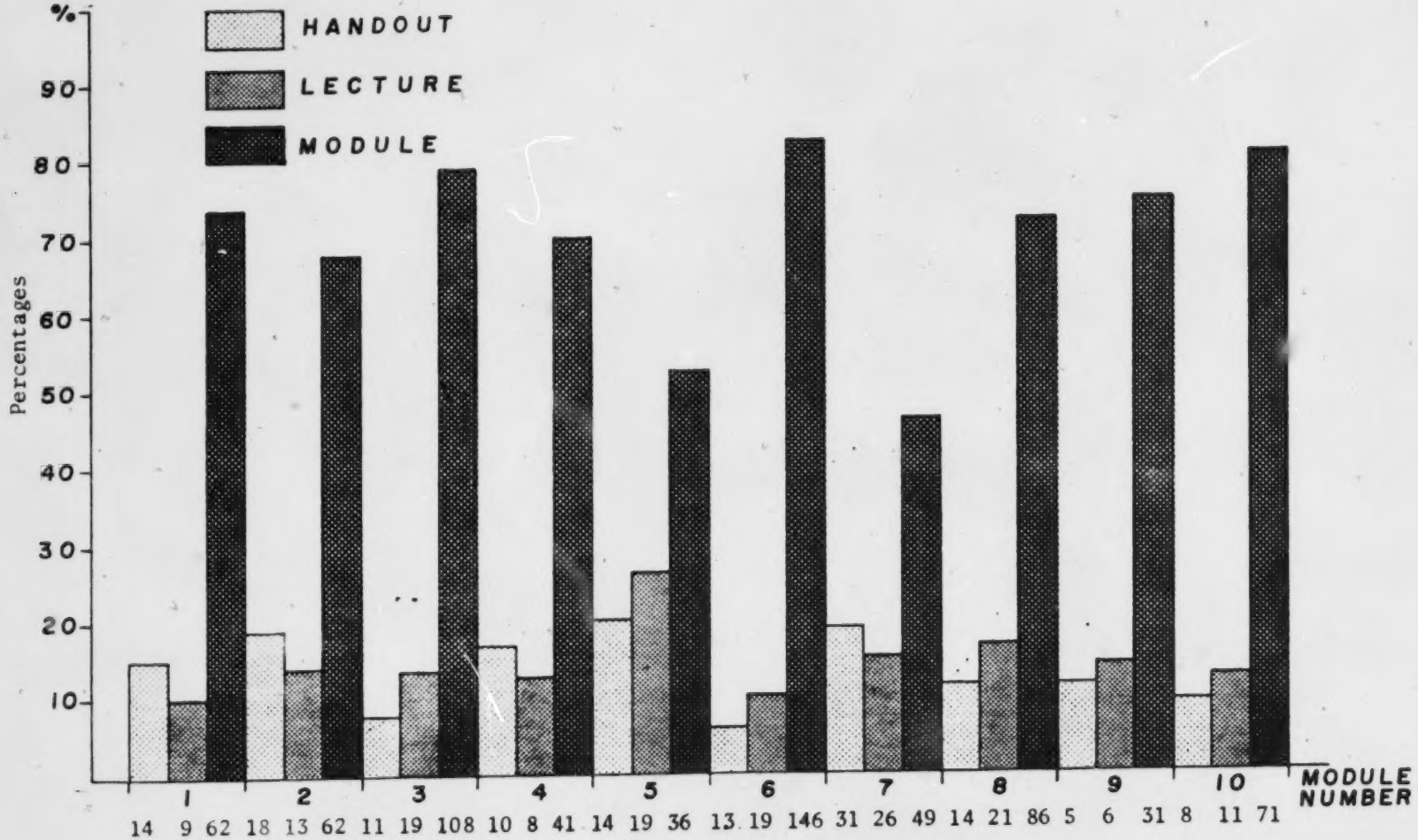


Figure 8

Format Preference by Trainees: Bar Diagram of Percentage Distribution

Handicapped Learners" could very well be disseminated through other less expensive formats.

A chi square test indicated a significant difference at the .01 level between modules in relation to selection of preferred medium.

Based on these results, it is concluded that the majority of the modules overcame the limitations of handouts with experts, trainers, and trainees reporting the superiority of module characteristics over handout attributes. However, trainees indicated that the content in "Troubleshooting in Teaching Concepts" (Module 5) and in "Improving Spelling Skills in Handicapped Learners" (Module 7) could be equally well presented through other less expensive formats such as the handout or the lecture.

Use of Modules by Teacher Trainers

In the Expert Review study, the experts indicated whether they would use each assigned module if the module were provided for their methods courses. Most of the experts indicated that they would use the series as part of their curriculum. However, one expert reviewing "Teaching Reading to Handicapped Children" (Module 6) reported that the module's content was too simplistic for graduate students.

In the Use and Impact Study, the trainers were asked whether they would use the modules again. Eighty-eight percent (15 out of a total of 17) of the trainers indicated future module use, while one trainer felt ambivalent towards using the series again and another trainer, after viewing only "Improving Spelling Skills in Handicapped Learners" (Module 7), preferred not to use the modules in the future.

The trainers in the Use and Impact study were also asked if they would use the modules as adjuncts to courses if the modules were provided. All

of the trainers indicated future use of the modules as supplementary aids.

The experts participating in the Expert Review phase and the trainers included in the Use and Impact Study were asked whether it would be beneficial for special education trainers teaching EMR methods courses to acquire and use the TIPS FOR TEACHERS series. All of the experts and trainers agreed that the acquisition would be beneficial.

One of the most important objectives of the Use and Impact Study was to ascertain the percentage of trainer use of the module from the total population of trainers exposed to the series. Across the ten university and college training institutions, a total of 33 different instructors used the modules. The number of instructors who possibly could have used the module is difficult to estimate. The total number of special education trainers at the sites consisted of 108½ faculty members, but interviews by phone with the contact person revealed that, typically, instructors of methods courses in regular education had access to the series and a few used the modules. Therefore, no conclusions can be drawn as to the percentage of trainers who would use the modules if the series were provided.

Use of modules by instructors varied from one through nine modules. Table 8 presents the data on the number of different trainers who used each of the modules at each of the ten training institutions. As can be seen at the bottom of the table, there was considerable variability in the number of different trainers who used each module. For example, "Informal Reading Inventory" (Module 4) was used by eight different instructors, whereas "Improving Spelling Skills in Handicapped Learners" (Module 7) was used by 19 trainers. The three most frequently used modules were (in descending order): "Improving Spelling Skills in Handicapped Learners" (Module 7), "Observing and Recording a Child's

Table 8

Use of Modules by Different Faculty at Each Site

Modules	1	2	3	4	5	6	7	8	9	10	Total Number of Modules used at Site
Sites											
1	1	1	1		1	1		1	1	1	8
2	1	1	2	1	1	2	1	3	2	2	9
3	3	2	1	3	2	2	2	3	2	3	10
4		1	2		1					1	4
5		2		1		1	2	1	1		6
6	2	4	4		2	5	4	4	6	3	9
7	1	1	1	1	1	1	1	2	1	1	10
8	1	1	1			1	3		2	1	7
9	1	1	3	1		1	3	3	2	1	9
10	1		3	1	6	1	3	1	1	1	9
Total Number of Instructors Using Module	11	14	18	8	14	15	19	15	18	14	

Behavior" (Module 3), and "Designing Art Experiences: Body Concept" (Module 9).

The number of modules used at any one training site varied from four at the University of Denver (Site 4) to the use of all ten modules at Bowling Green State University (Site 3) and at Valparaiso University (Site 7). Figure 7 identifies the designated sites by number. The modules were also used in a variety of different courses at the ten training institutions. Figure 5 provides a summary of the courses in which each module was used across the ten sites. The type of course most frequently using the modules consisted of EMR and noncategorical methods courses.

In summary, the data derived from questions ascertaining whether the series should be used by trainers supported the dissemination of the series to the training population. The most frequently used modules by trainers consisted of "Observing and Recording a Child's Behavior (Module 3), "Improving Spelling Skills in Handicapped Learners" (Module 7) and "Designing Art Experiences: Body Concept" (Module 9). The data also revealed that the modules tend to be used most frequently in EMR and noncategorical methods courses.

Use of Modules by Trainees

In the Use and Impact Study, trainees were asked to indicate whether they would recommend that other students in methods courses go through the modules. On eight of the ten modules (see Figure 9) at least 75% of the trainees recommended that other students should use the series. However, only 63% of the trainees suggested that other students work through the unit "Troubleshooting in Teaching Concepts" (Module 5), and only 65% recommended that "Improving Spelling Skills in Handicapped Learners" (Module 7) be used

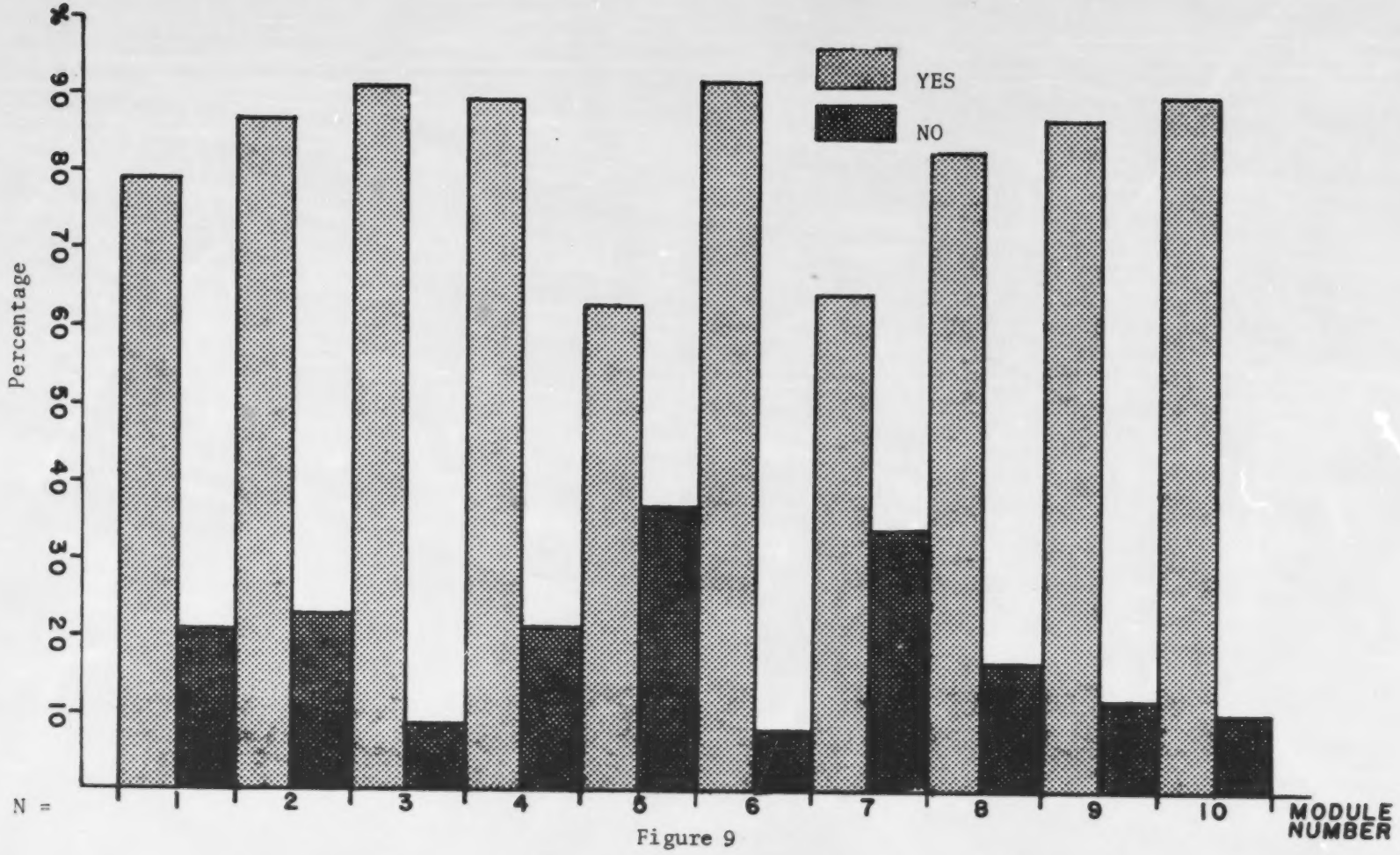


Figure 9

Recommended Use for Other Trainees: Bar Diagram of Percentage Distribution

by each training institution.

As can be seen, there was a wide variability in the number of trainees who used and evaluated each of the modules. For example, while there were only 59 trainees who used "Informal Reading Inventory" (Module 4), 179 trainees viewed "Teaching Reading to Handicapped Children" (Module 6). When the data on use of modules by trainers and trainees were combined, three groupings of usage emerged. Figure 10 illustrates the distribution of combined module use by trainers and trainees. As can be seen, this plot separates modules into low usage (Modules 1, 4, and 5), medium usage (Modules 2, 7, 8, 9, and 10) and high usage (Modules 3 and 6). Thus, the combined data indicate that the modules "Observing and Recording a Child's Behavior" (Module 3) and "Teaching Reading to Handicapped Children" (Module 6) experienced the most frequent use.

The trainees did encounter some problems in using module components. The questionnaire asked the trainees to indicate for each module whether any problems occurred with the audiotape, filmstrip, or response book. The reported percentage of problems with each of the three components appears in Figure 11. It is apparent from looking at the graph that "Improving Spelling Skills in Handicapped Learners" (Module 7) contains serious problems. More than half of the trainees reported complications with the audio portion, almost half cited difficulties with the response book, and more than one-third experienced problems with the visual portion of the program. In relation to "Troubleshooting in Teaching Concepts" (Module 5) and "Teaching Reading to Handicapped Children" (Module 6), more than one-third of the trainees cited difficulties with the audiotape. The complaints centered upon the poor voice quality. One-third of the trainees experienced problems with the response

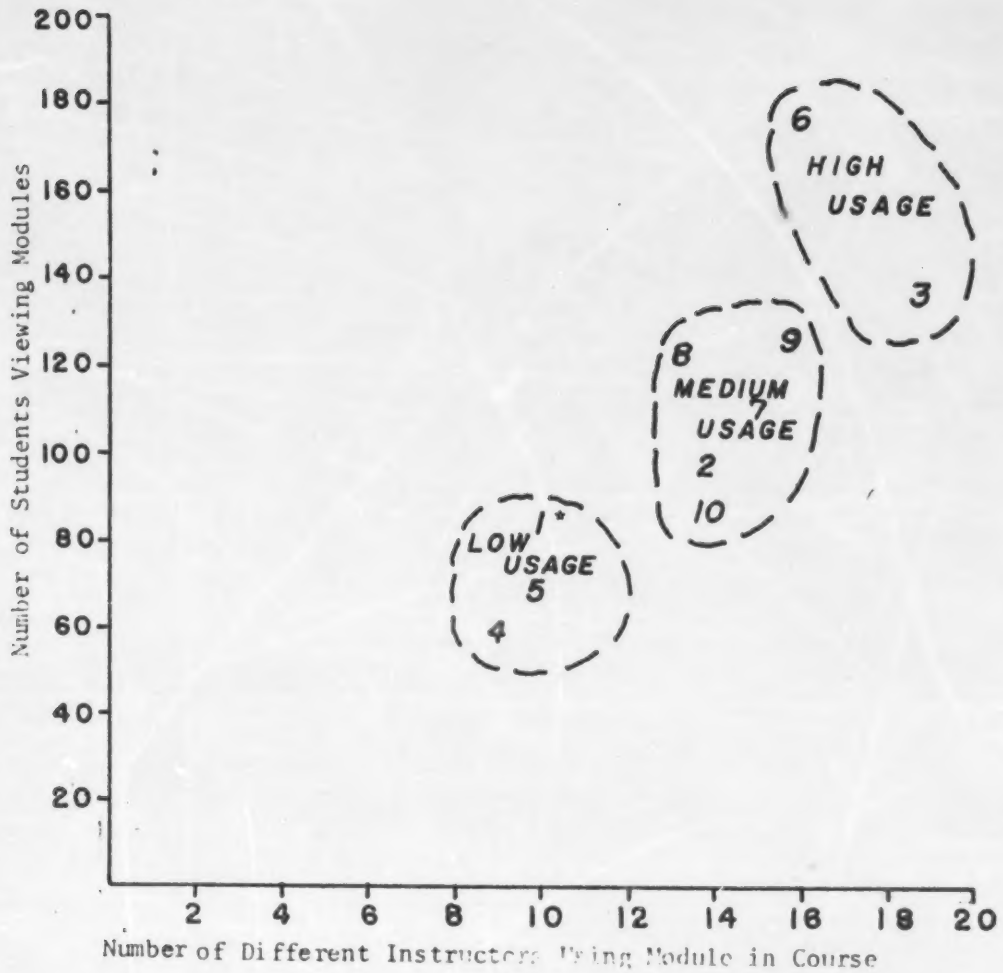


Figure 10

Plot of Student/Faculty Usage of Modules

*Indicates the Module Number

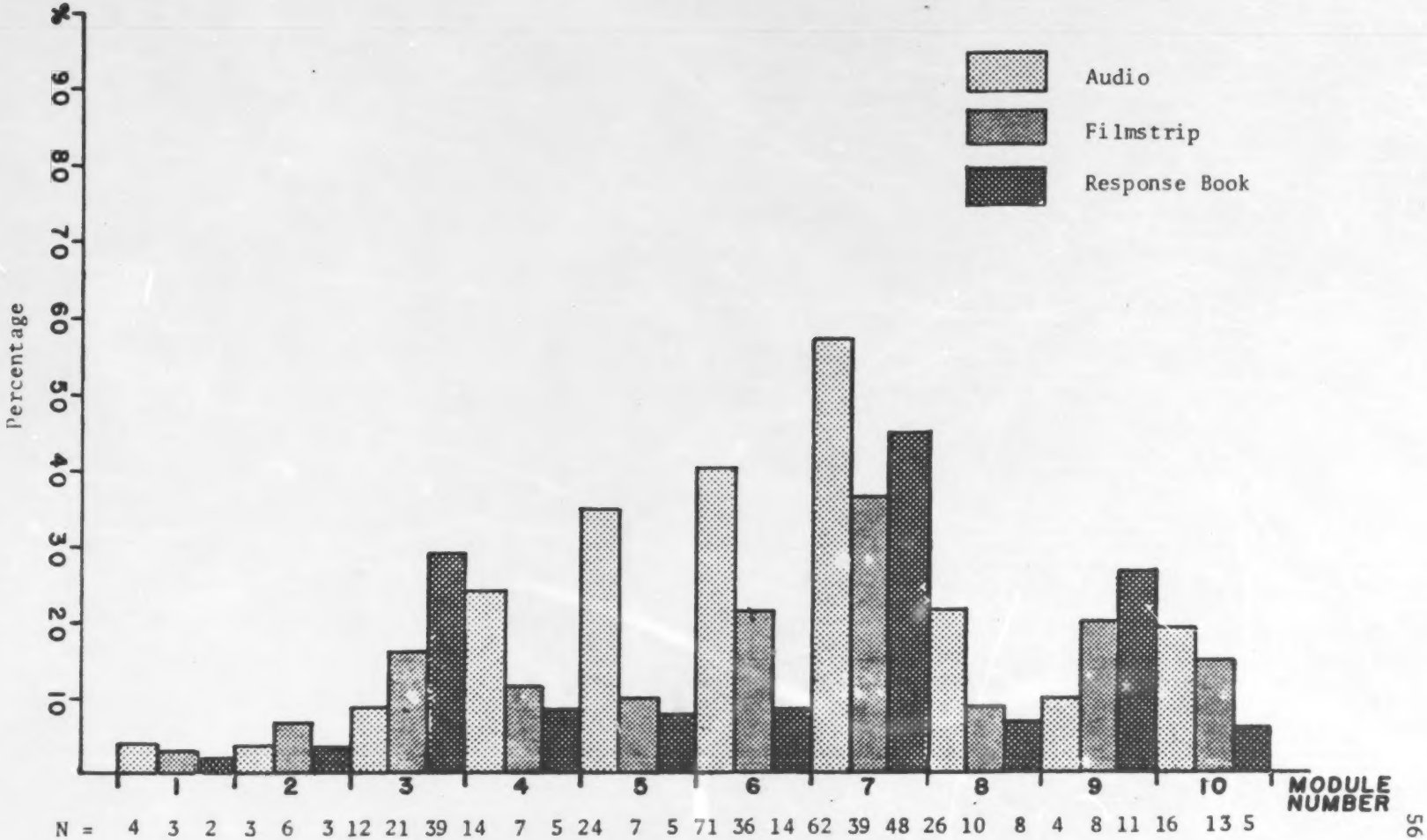


Figure 11

Percentage of Students Reporting Problems with Three Components of Modules

by other students. A chi square test on these trainee responses indicated a significant difference at the .001 level. Modules 5 and 7 seem to significantly differ from the other modules in terms of recommended use. In relation to the module dissemination questions, the data therefore suggest that "Troubleshooting in Teaching Concepts" (Module 5) and "Improving Spelling Skills in Handicapped Learners" (Module 7) would not be recommended by trainees for future use by other students. This raises questions as to the value of including these two modules in the series.

Similar to the experts and trainers, all of the trainees indicated that it would be beneficial for students to use the TIPS FOR TEACHERS series as an adjunct to course work in preparation for working with handicapped children.

Module usage by trainees was either through assignment by trainers or through self-selection. Most of the trainers selected the modules on the basis of content relevance to current course's curriculum. In total, 1081 questionnaires examining module impact were completed by trainees. Thus, at least 1081 viewings of modules occurred during the Use and Impact Study.

The frequency of use was not nearly as high as was anticipated during the planning stages of the evaluation. Prior to sending out the materials to each training institution, the evaluation team asked the faculty contact person to estimate the number of trainees anticipated to view the modules. The number of response books and evaluation questionnaires prepared for and sent to each site was based upon these appraisements. The contact persons estimated that, on an average, about 500 individuals would view each module. Hence it was calculated that across all the modules, there would be 5,000 viewings. The actual number of questionnaires returned was 21.6% of that estimate. Table 9 provides a summary of the number of viewings for each

Table 9

Use of Modules by Trainees at Each Training Site

Module Number	1	2	3	4	5	6	7	8	9	10
Training Site										
1	15	15	14	7	15	22		14	15	14
2	7	6	20	6	5	10	6		15	13
3	40	8	17	34	39	52	21	59	41	39
4		7	12		1					2
5		2		1	2	50	2	1	2	
6	11	40	30			31	17	25	33	10
7	1	11	7	2	2	1	6	13	7	5
8	6	5	1		3	4	3		5	3
9	4	3	9	3		4	12	6	6	3
10	1		28	6	6	5	46	5	1	2
Total no. of Students	85	97	138	59	71	179	113	123	125	91

book for "Observing and Recording a Child's Behavior" (Module 3) and for "Designing Art Experiences: Body Concept" (Module 9). With Module 3, the response book required the trainee to flip back and forth in order to follow the audiotape instructions, while with Module 9 exercise examples of art work were omitted due to a printing error.

Data collected from the trainer and trainee interviews supported these problems with the various components of the modules (see Figure 12). Forty-two percent of interviewed trainers and 38 percent of the interviewed trainees cited problems with the response book, while 12 percent of the trainers and 23 percent of the trainees experienced problems with the audiotape. Forty-two percent of the trainers and 20 percent of the trainees noted problems with the filmstrip of one or more modules.

In summary, trainee module use was about 20 percent of the anticipated usage and varied significantly between modules. The units receiving the greatest use were "Observing and Recording a Child's Behavior" (Module 3) and "Teaching Reading to Handicapped Children" (Module 6). Thus, in relation to the dissemination questions, the trainee use data suggest that Modules 3 and 6 should definitely be incorporated in the series.

The trainee data also suggested that problems exist with "Troubleshooting in Teaching Concepts" (Module 5) and with "Improving Spelling Skills in Handicapped Learners" (Module 7), as these modules appeared to differ significantly from the other modules in terms of recommended use.

In reference to the module dissemination questions, the trainee data suggest that trainees do use the modules (although to a lesser degree than expected), and that a great majority of trainees recommend that the series be used by other students in methods courses. However, serious module component

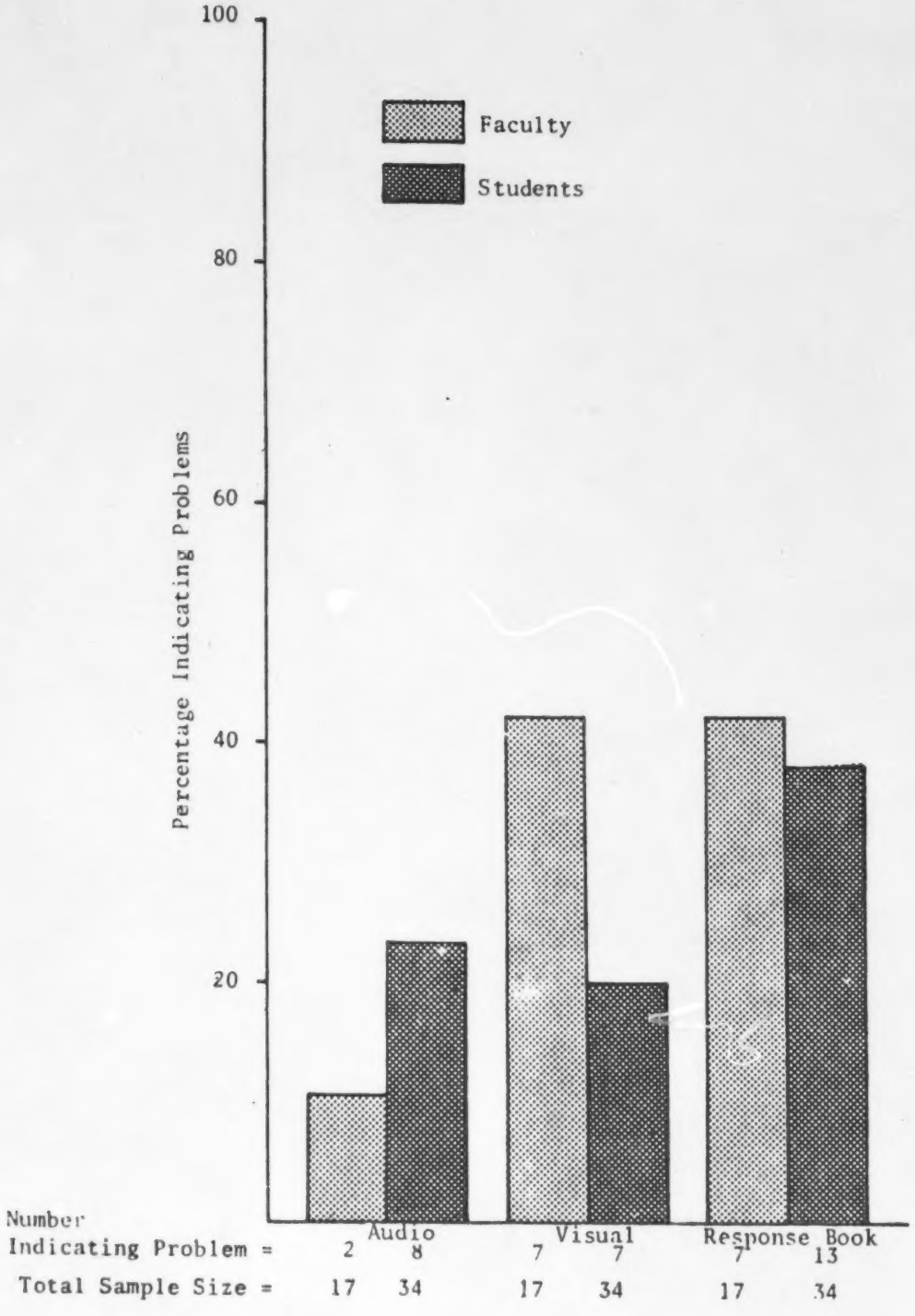


Figure 12

Percentage of Students Interviewed and Faculty Users Indicating Problems With Audio, Visual or Response Book Parts of the Program in any Modules

problems exist which indicate revisions if dissemination is decided on for the following modules: "Troubleshooting in Teaching Concepts" (Module 5), "Teaching Reading to Handicapped Children" (Module 6), and for "Designing Art Experiences: Body Concept" (Module 9). The trainee data also imply possible exclusion for "Improving Spelling Skills in Handicapped Learners" (Module 7).

Attitude Toward Modules

Attitudes of the trainees and trainers toward the modules deserve special consideration and will be discussed in detail next.

The experts rated the module with respect to the methods course they teach on the twelve-item semantic differential scale. In this scale, the lower the mean rating, the greater the positive attitude is. Although the number of trainers viewing any one module is low (2 to 6) and should be interpreted with caution, a plot of the mean ratings (see Figure 13) shows "Troubleshooting in Teaching Concepts" (Module 5) receiving a much more negative assessment than any of the other eight modules on the relevance and practicality, and effectiveness and clarity dimensions. "Using Volunteers" (Module 1), "Teaching Reading" (Module 6), "Troubleshooting in Teaching Concepts" (Module 5) together are the least interesting and flexible (mean ratings varying from 2.33 to 3.67) ones.

The trainees rated the modules on the same twelve-item differential scale. Means and standard deviations for each of the twelve items on each module for the total sample (which consists of all available responses) are given in Appendix J. A plot of the mean ratings is also given in Figure 14. It clearly shows a wide range in mean ratings. For example, "Informal Reading Inventory" (Module 4) received a mean rating of 1.78 on the scale denoted as beneficial, whereas "Improving Spelling Skills" (Module 7) received a mean rating of 3.78 on the stimulating scale. For all the modules the stimulating

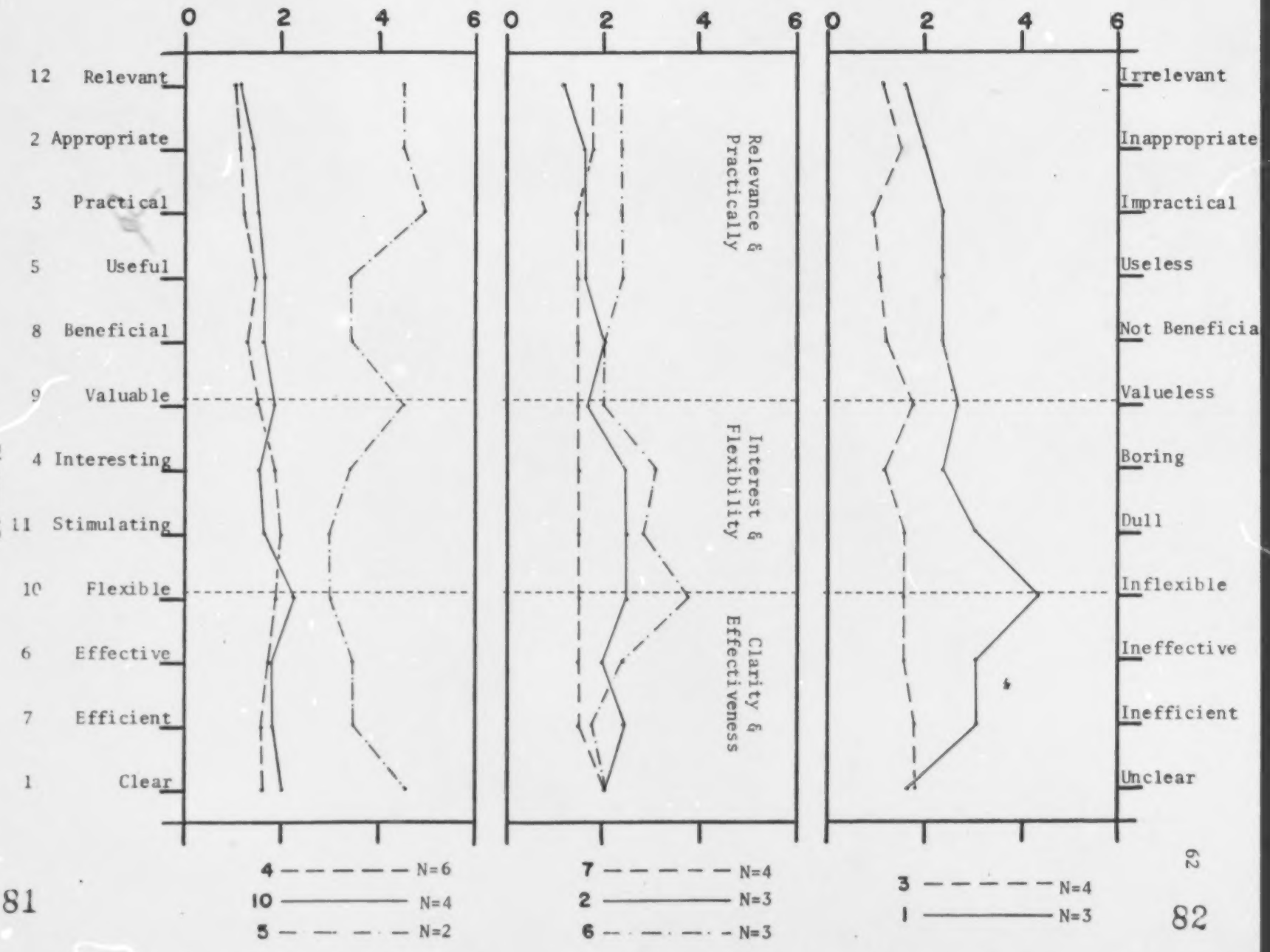


Figure 13

Mean Ratings of Modules by Experts

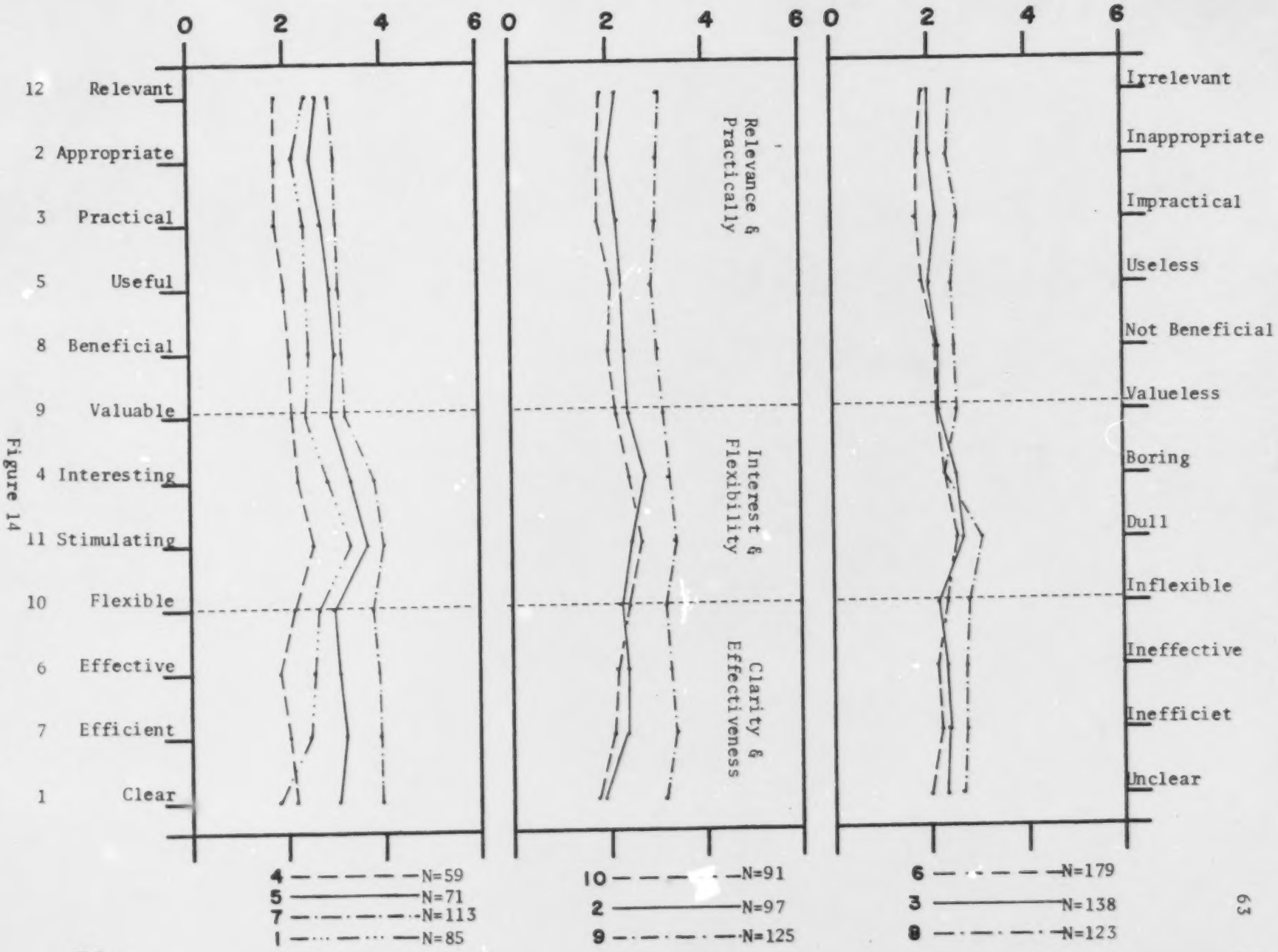


Figure 14 Mean Ratings of Modules by all Trainees

dimension received the highest rating which implies negative attitude. It can also be seen from Figure 14 that "Improving Spelling Skills" (Module 7) received more negative ratings on all dimensions than any other module.

Also, the same kind of information was obtained from the data consisting of selected trainees--selected according to one-module-per-trainee criteria.

Means and standard deviations for each of the twelve items for each module are given in Appendix J. A plot of this data is given in Figure 15. As can be seen there is a wide range in mean ratings, from 1.78 on beneficial in "Informal Reading Inventory" (Module 4) to 3.78 on stimulating in "Improving Spelling Skills in Handicapped Learners" (Module 7). It can be observed from the table that Modules 7 and 9 received more negative ratings than any others.

In order to further investigate these differences, a discriminant analysis was performed on the ratings of the selected sample trainees. The modules differed significantly on two of the discriminant functions ($p > .001$ and $p > .01$ respectively). Table 10 presents the summary table for the discriminant analysis including eigen values and canonical corrections. From the standardized discriminant function coefficients for the two significant functions (see Table 11) it was possible to identify the two dimensions along which the modules differed. The first dimensions represents the effectiveness and clarity of a module, with major coefficients of -.98 on clarity, and -.41 on effectiveness. The second dimensions seems to represent the relevance, practicality, efficiency and lack of clarity of the module, with major coefficients of -.43 on relevance, -.38 on practicality, -.48 on efficiency, and .63 on clarity.

By plotting the centroids of each module on the effectiveness and clarity dimensions versus the relevance, practicality, efficiency and nonclarity dimension, the differences between modules become strikingly clear. The

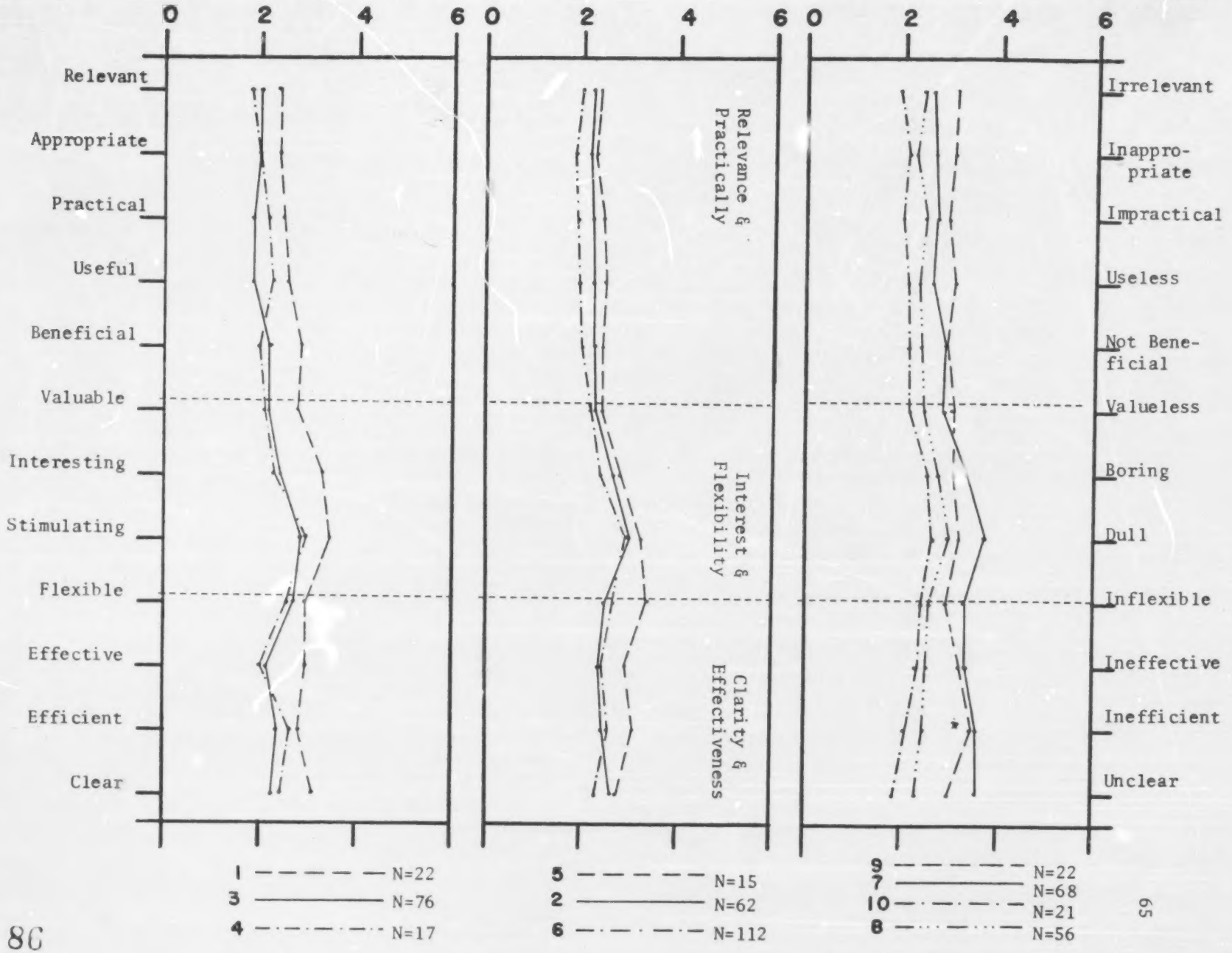


Figure 15

Mean Ratings of Modules by Select Sample Students

Table 10

Discriminant Function Summary Table

on Selected Sample Students' Ratings

Number of Variables Removed	Eigen Value	Canonical Correlation	Degrees of Freedom	Chi Square
0	.245	.444	108	225.937***
1	.094	.293	88	124.995**
2	.065	.248	70	83.571
3	.042	.200	54	54.241
4	.030	.170	40	35.375
5	.022	.147	28	21.834
6	.013	.115	18	11.800
7	.008	.087	10	5.639
8	.005	.069	4	2.173

*** sign at .001 level

** sign at .01 level

Table 11

Standardized Discriminant Function Coefficients

for First and Second Functions

ITEM	Function I Clarity and Effectiveness	Function II Reliance and Practicality
Relevant	.128	-.429
Appropriate	.334	-.302
Practical	-.110	-.381
Useful	.304	-.284
Beneficial	-.292	-.161
Valuable	.275	-.052
Interesting	-.075	-.037
Stimulating	.135	.471
Flexible	-.166	.296
Effective	-.407	-.177
Efficient	-.119	-.475
Clear	-.982	.630

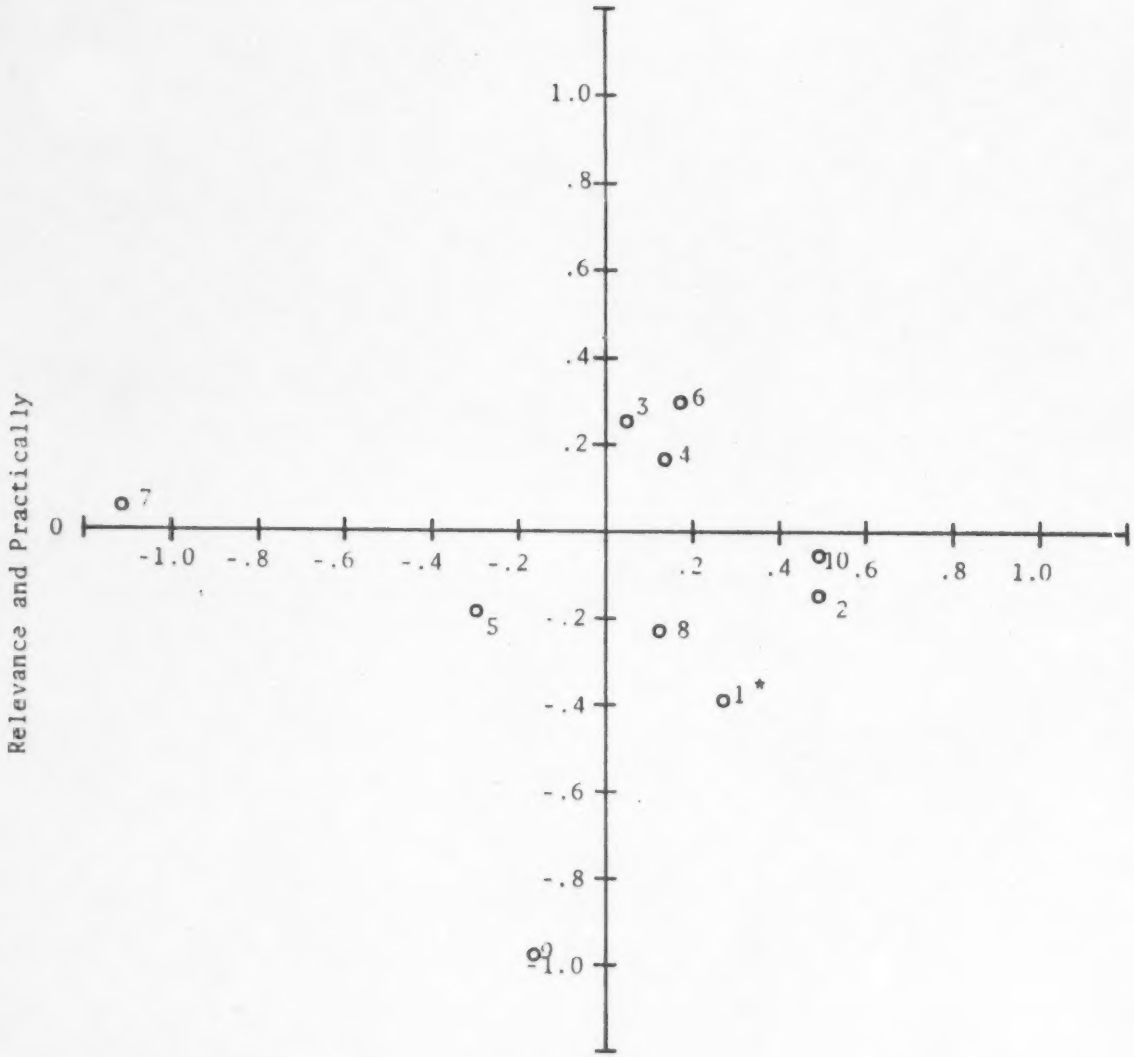
plot in Figure 16 should be interpreted in the following manner.

The modules whose centroids falls in the upper right quadrant are relevant, practical and efficient and communicate in an effective and clear manner. Three modules' centroids fall rather closely in the quartant, "Teaching Reading" (Module 6), "Informal Reading Inventory" (Module 4), and "Observing and Recording" (Module 3).

The modules whose centroids fall in the lower right quadrant are comparatively effective and clear but lack to varying degrees relevance, practicality and efficiency. Four modules fall in this quarter, "Parents as Partners" (Module 2), and "Personalized Questions" (Module 10) are the two most clear and effective modules, lacking slightly in their relevance, practicality, and efficiency. "Using Volunteers" (Module 1) is slightly higher than Modules 3, 4, and 6 in effectiveness and clarity, but suffers appreciably in relevance, practicality and efficiency. Module 8 (Decision-Making Module) is similar in effectiveness and clarity as Modules 3, 4, and 6, and falls between 2, 10, and 1 in lack of relevance, practicality and efficiency.

Those modules falling in the lower right quadrant lack both in the effectiveness and clarity and the relevance, practicality and efficiency dimensions. "Designing Art Experiences" (Module 9) is rated extremely low in the relevance, practicality and efficiency dimensions, suffering slightly also on the effectiveness and clarity dimensions. "Troubleshooting in Teaching Concepts" (Module 5) has slight lacks on both dimensions.

Those modules falling in the upper right quadrant lack effectiveness and clarity but are relevant, practical, and efficient. "Improving Spelling Skills" (Module 7) is the only module in this area with a very poor rating on effectiveness and clarity. From the same figure the problem of relevance and



Effectiveness and Clarity

Figure 16

Plot of Centroids of Clarity and Effectiveness Function

Versus Relevance and Practicality Function

* Module Number

practicality for Module 9, and clarity and effectiveness for Module 7 become apparent from the high ratings in each of these two areas. Module 5's problems seem to be more in efficiency ($\overline{X}$ = 3.3) than relevance ($\overline{X}$ = 2.2).

This data clearly supports the exclusion of "Improving Spelling Skills" (Module 7) and "Designing Art Experiences: Body Concepts" (Module 9) from the series. It also leans toward the exclusion or extensive revision of "Troubleshooting in Teaching Concepts" (Module 5).

Mastery of Content of Modules

The next evaluation question raised is whether the trainees demonstrate knowledge of the modules contents and skill in using techniques covered by the modules. In order to assess this in the nonexperimental settings of the training programs where we had no real control over use or even evaluation of the modules, and in light of the evidence supporting significant increases in knowledge and skill by trainees after completing training in selected of the modules (Stolovitch, H., 1975; Wendell, H., 1975; Williams, 1976; Brownsmith, K. & Field, D., In Prep.), we decided to use two procedures.

The first procedure was a self-evaluation by trainees. We asked trainees to rate their knowledge of the content and skill in using the techniques prior to going through the module and their increase in knowledge and using techniques as a result of going through the module. This self-rating resulted in little useable information for differentiation of knowledge and skills obtained using the modules, and the results are not therefore presented in this report.

The second technique, which proved much more useful in differentiation of the modules, was the completion of a posttest for the module the student had just viewed. The posttest items for each module were based on the objectives of that module. The test itself was devised by the developer

of the module or an instructional development staff member who had worked in the development of the module with the exception of Module 5 (all developers who had worked on this module left prior to developing a certain test.) The scoring procedures for all the posttests were designed by a member of the evaluation team.

The type of items contained in each of the posttests varied from identification to recall to application. The number of items of each kind for each of the modules is summarized in Table 12.

One major intent in the development of the modules was to produce an instructional medium which would result in mastery of most of the content by a majority of the trainees using the series.

With this objective in mind we have graphically represented mastery of content for each of the modules. In these graphs we have presented the cumulative percentage of trainees who score at or above each percent mastery score. What we were looking for in the mastery was that 80% of the trainees master 80% or more of the content as measured by the posttest. Unfortunately, the results show (Figure 17) that this objective was exceeded by only one module--"Personalized Questions" (Module 10). "Parents as Partners" (Module 2) came close to reaching the objective of 80/80 with approximately 73% of the trainees scoring at or about 80% mastery.

For two modules around 60% of the trainees mastered 80% of the content: "Using Volunteers in the Classroom" (Module 1) 64/80; and "Informal Reading Inventory" (Module 4) 56/80. Between 40 and 50% of the trainees mastered 80% of the content on: "Teaching Reading" (Module 6) 50/80; and "Troubleshooting in Teaching Concepts" (Module 5). The ratings of the remaining three are as follows: "Decision Making Module" (Module 8) 28/80; "Observing and Recording" (Module 3) 28/80; "Designed Art Experiences: Body Concept" (Module 9)

Table 12

Summary of Criterion Test Items by Module

Module	Identification		Recall		Application		Total	
	# Items	# Points	# Items	# Points	# Items	# Points	# Items	# Points
1			3	6	3	6	6	12
2			3	6	1	4	4	10
3	1	5	2	8	3	24	6	37
4			4	26			4	26
5	2	10	4	16			6	26
6			3	15			3	15
7	2	8	1	4	3	14	6	26
8	16	16					16	16
9	1	5	1	2	2	14	4	21
10	2	5	3	6	2	15	10	26

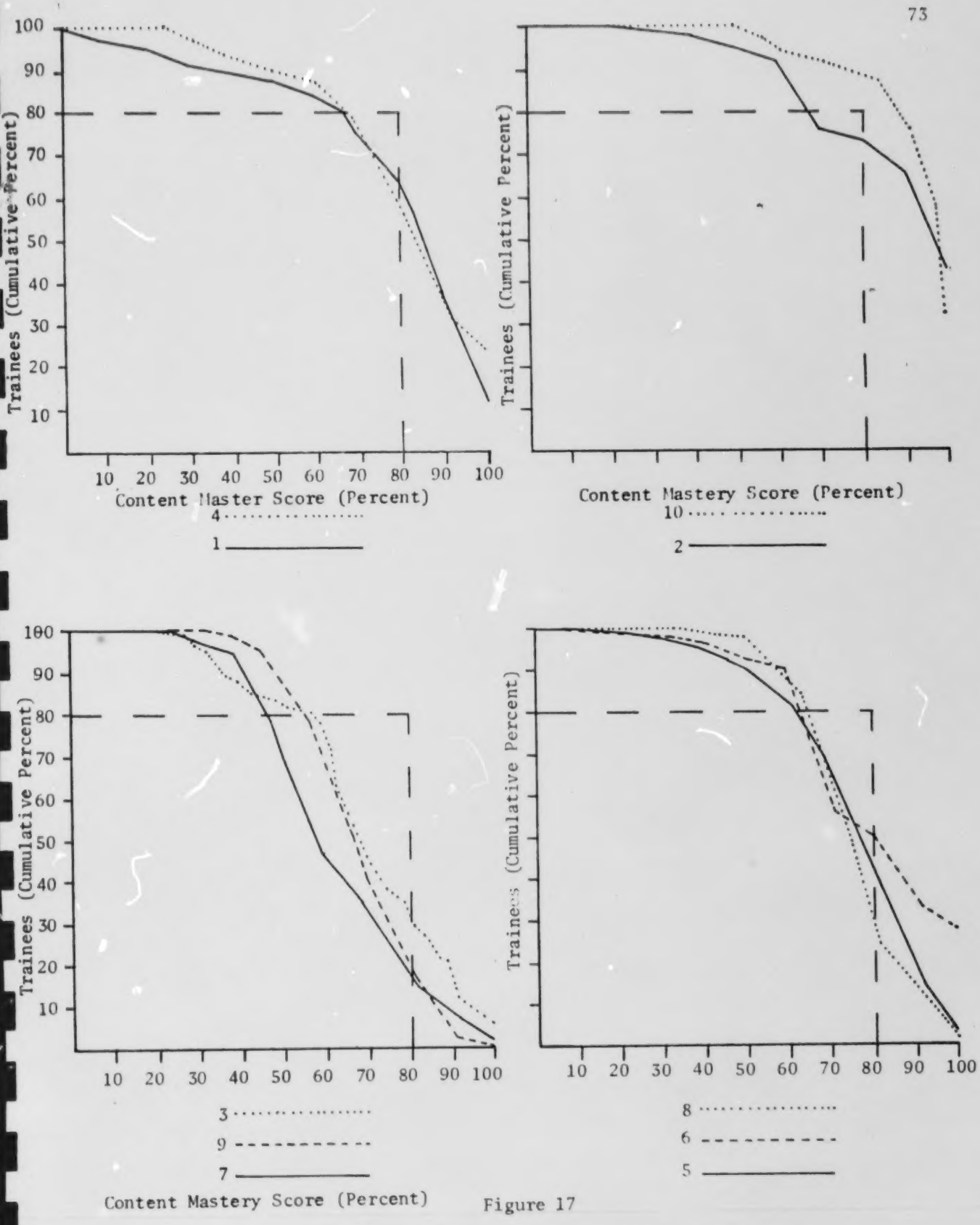


Figure 17

Percent Mastery of Content--All Trainees

19/80; and "Teaching Spelling Skills to Handicapped Learners" (Module 7) 18/80.

Differences at the 60% level of mastery, which could be viewed as a minimal level of mastery, are not as pronounced on all modules, except that for 3, 9, and 7 more than 80% of the trainees scored at or above the 60% level of mastery. Comparisons on the 80% and 60% mastery levels are provided in Figure 18.

Two possible explanations for the differences between modules in posttest performance seem plausible. The first is that the differences in percent of trainees achieving mastery level (80%) reflects differences in the clarity and effectiveness of the modules. (The second is that the differences are due to the posttest level of difficulty and the type of item, in other words, a problem with the posttests themselves.)

Let us take the first possible reason for the differences and explore it. If the lack of mastery at the 80% level reflects an effectiveness of the module, then there should be a strong relationship between the modules relative ranking on the effectiveness-clarity dimension from the semantic different rating and the percentage mastery at the 80% level.

To investigate this possibility we went to the selected sample trainees responses for our statistical comparison. We plotted the modules according to the percent of trainees who master at 80% level or above the modules centroid on the clarity and effectiveness dimension (Figure 19).

This plot indicates a positive curvilinear relationship between rated effectiveness and clarity of the module and the percentage of trainees achieving 80% mastery or better. Coefficient of correlation between the two measures (N = 10) is .68 which provides some measure of the degree of the relationship.

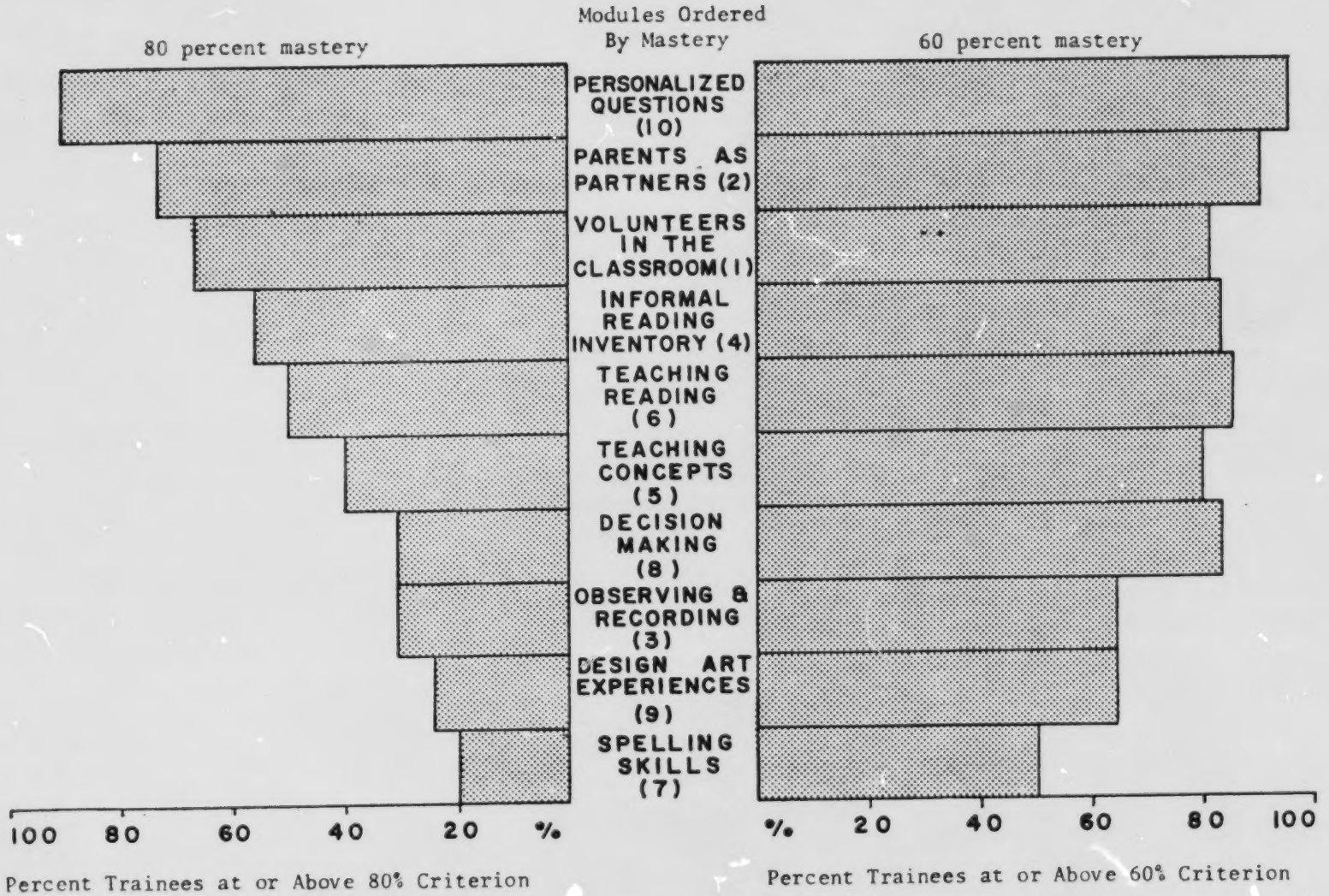


Figure 18

Mastery of Content at 80% and 60% Levels

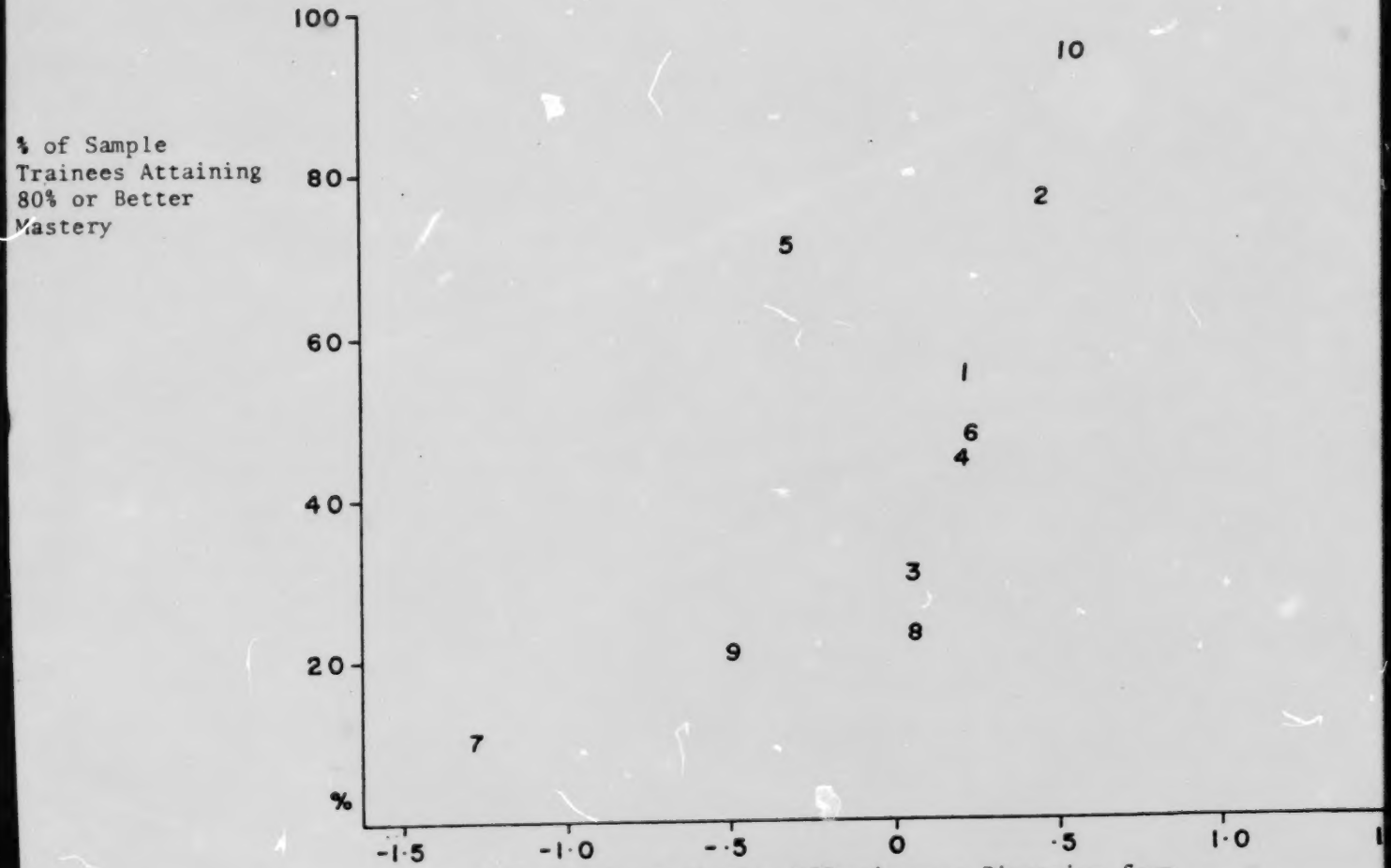


Figure 19

Relationship of Clarity-Effectiveness and Percent of Trainees Attaining 80% Mastery

The only module which the relationship between rated clarity and effectiveness and mastery of content does not at any level hold for the sample is Module 5. Although rated third from last on clarity and effectiveness, it is third from the top on mastery by the sample. Two explanations for this discrepancy are possible -- That it is an artifact due to the small sample (size) (Only 15 students are represented) or that the pretest for this module did not reflect the level of difficulty of the module (it is the only posttest that was not devised by a person who had not worked closely on the development of the module).

At any rate, it seems that the perceived clarity and effectiveness are indeed related to the mastery of content. It must be stressed, however, that there was no attempt to equate type of item or level of difficulty of the content mastery test. So, some of the observed differences could be due to a nonequality in posttest items.

Keeping in mind these reservations, we are willing to recommend that, on the basis of the content mastery data, several modules should probably be excluded from a dissermination effort. "Improving Spelling Skills" (Module 7) and "Designing Art Experiences" (Module 9) should be excluded due to the lack of mastery in combination with the other previously discussed data. "Observing and Recording" (Module 3) and "Decision-Making" (Module 8) should be considered closely in light of the relatively poor showing in mastery of content, although other data certainly would place these modules above seven and nine. Finally, more emphasis should be placed in the future on mastery of content as a guiding force in formative evaluation and revision of future modules developed by the Center for Innovation in Teaching the Handicapped.

Suggested Modifications

The following section illustrates suggested modifications for the TIPS FOR TEACHERS series as derived from the

ten evaluation questionnaires developed for each module (see Appendix D). Question number one elicited component problem areas residing within the audiotape, filmstrip, and response book. Questions numbered eleven and twelve, two open-ended questions, ascertained negative reactions to and suggested modifications for each module. As only trainees were asked to respond to individual modules, the investigation limited itself to the trainees' responses. The component problem-area question asked "Were there any problems with the audiotape, the filmstrip and/or the response book?" and the trainee checked either "yes" or "no" for each component. Question eleven inquired "What did you dislike about this package?" and question twelve requested "What changes should we make in future modules?" As question one surveyed the entire trainee population responses, a cut-off point of 30% was used for indicating problem areas in the audiotape, filmstrip, and response book. Any component receiving an indication of "yes" equal to or greater than 30% of the total population was regarded as suggesting revision of that component. As the open-ended questions were randomly sampled from the greater population (total sample number for each module equaled 25), a lower cut-off point of 20% was used to indicate problem areas. That is, module areas receiving 20% or greater ratings as to cited inadequacies indicated revision of that area.

The data derived from both the closed and open-ended questions indicated that the components and the content areas for the following five modules should be kept in their original form.

Parents as Partners in Teaching Handicapped Children, Module 2

Observing and Recording a Child's Behavior, Module 3

Informal Reading Inventory, Module 4

A Decision-Making Model for Teaching the Handicapped, Module 8

Personalized Questions, Module 10

Within the context of the open-ended questions, a just barely significant percentage (20%) of the trainees felt that the content of "Using Volunteers in the Classroom," (Module 1) should include a greater number of in-classroom examples. However, other questionnaire data contradicted this indicated content revision. For example, twenty-four percent of the trainees spontaneously volunteered complete satisfaction with the module in response to the question eliciting negative module attributes, and another 24% spontaneously stated that no modifications should be made. Thus, since the complaint percentage just attained the qualifying level for indicating module modification (20%), it is suggested that no modifications be employed and that the module be made available in its present form.

The module "Designing Art Experiences," (Module 9) also received a significant percentage of trainees' responses indicating modification, with the focus, this time, upon changing the response book's format. Thirty-five percent of the total trainee population indicated problems with the booklet in answering question number one. In response to the question eliciting negative attributes, twenty-four percent of the trainee samples indicated dissatisfaction with the book. Also, in relation to suggested modifications, 20% of the sample stated that the pictures cited by the audio-tape should be included in the response book. Thus, the data strongly suggested that revision of the response book be performed prior to dissemination. However, shortly after CITH sent the module to the evaluation sites, examination of the response book revealed that several pages had been omitted through a printing error. Copies of these pages were forwarded immediately to the sites, but several locations had already used the module. Therefore, the data implications for the response book modifications are not deemed relevant for

the present evaluation. Rather, the data suggest that if the module is to be disseminated, it should be disseminated in its present form.

Three modules did receive highly significant trainee ratings, indicating the performance of module modifications. The designated modules included "Troubleshooting in Teaching Concepts" (Module 5), "Teaching Reading to Handicapped Children" (Module 6), and "Improving Spelling Skills in Handicapped Learners" (Module 7). As the cost (in terms of expenditures of time and resources) may affect the desirability of disseminating the modules, their suggested modifications are presented in depth.

Troubleshooting in Teaching Concepts, Module 5

In response to the component problem-area question, a significant percentage (36%) of the total trainee population indicated problems with the audiotape. In answering the open-ended questions, a significant percentage (28%) of the sample indicated a dislike of the audiotape, stating that the tape was unclear due to background noise. In addition, 28% of the sample stated that the content was unclear. Thus, the data derived from the component problem area and the open-ended questions suggested that the module's audiotape should be revised by removing the background noise and that the module's content should be clarified. As both the audiotape and the content require revisions, this evaluation questions the advisability of expending additional resources for making the module suitable for dissemination.

Teaching Reading to Handicapped Children, Module 6

A significant percentage of the trainee responses in both the closed and open-ended questions indicated difficulties with the audiotape. In response to question number one, 39% indicated difficulties with the audio-

tape. In response to the open-ended questions, 44% declared the module's pace was too rapid. Twenty-eight percent indicated that the module be revised in terms of slowing the pace. Since the audiotape establishes the rate by which a trainee progresses through the module, the data indicated that the tape be modified to permit a slower progression prior to additional use of the module.

Improving Spelling Skills in Handicapped Learners, Module 7

For this module, the data derived from question number one revealed significant problems with all three components: audiotape, 57%; filmstrip, 34%; response book, 47%. In response to the question which illicited negative module attributes, the trainee sample cited the following problem areas:

52% felt the module covered the content too rapidly,

36% found the content confusing,

24% disliked the response book which required flipping back and forth,

20% disliked the voice quality on the audiotape.

In relation to suggested modification, 28% of the sample suggested that the audiotape be revised. Furthermore, in responding to question ten, which asked trainees to list positive module attributes, 20% of the sample spontaneously noted a dislike of the module. None of the other modules elicited negative comments in response to the question seeking positive attributes.

The data derived from the component problem area and the open-ended questions indicated that the module's content, audiotape, and response book required modifications. As such revisions demand extensive allotment of resources, and as the dislike of the module is very intense, no modifications are recommended. Rather, the findings of the final evaluation report suggest that the module be removed from the TIPS FOR TEACHERS series.

In summary, the modification data suggested that seven modules remain in their present form:

Using Volunteers in the Classroom, Module 1

Parents as Partners in Teaching Handicapped Children, Module 2

Observing and Recording a Child's Behavior, Module 3

Informal Reading Inventory, Module 4

A Decision-Making Model for Teaching the Handicapped, Module 8

Designing Art Experiences, Module 9

Personalized Questions, Module 10

The modification data derived from the trainees' responses suggesting module modification indicated that changes be made in three modules prior to additional usage. "Teaching Reading to Handicapped Children" (Module 6), should undergo revision of the audiotape's rate of progression. Because of the exorbitant changes suggested for the modules "Troubleshooting in Teaching Concepts" (Module 5), and "Improving Spelling Skills in Handicapped Learners" (Module 7), the data questioned the advisability of revising the units and indicated that the modules should not be disseminated.

CHAPTER IV

SUMMARY & RECOMMENDATIONS

A. Summary of Results

This section provides a brief summary of the findings from the evaluation studies conducted on the TIPS FOR TEACHER: Instructional Competencies series. The results will be discussed as they relate to each of the evaluation questions.

1. Are the content and skills areas covered by the ten modules important to include in the training of teachers of educable mentally retarded children?

The content and skills areas covered by the ten instructional competency modules were determined to be important to include in the training of teachers of educable mentally retarded children. The data from expert reviews, trainers and trainees strongly support the inclusion of these topics in the training of teachers who work not only with the retarded but also with children who have other handicapping conditions.

2. Do the modules overcome the limitations of handouts as ancillary pedagogical devices?

The majority of modules overcome the 5 identified limitations (page 8) of the handouts, with experts, trainers and trainees reporting the superiority of module characteristics over handout characteristics. Some instructors are now specifying objectives for handouts they use, thus overcoming one limitation of handouts which was perceived as a problem at the time the modules were proposed. The support to which limitations of handouts and lectures were overcome was indicated by trainees who rated the modules as definitely the preferable way of learning the content of 8 of the 10 modules. This is not true for

"Troubleshooting in Teaching Concepts" (Module 5) or "Improving Spelling Skills in Handicapped Learners" (Module 7). It is our conclusion that the content for these two modules could be covered equally well through lecture or handouts.

3. Do teacher trainers in special education use the modules as adjunct materials in EMR methods courses when they are made available?

Across the ten university and college teacher training institutions, a total of 33 different instructors used the modules. The use of instructors varied from one to nine modules. The most frequent use of the modules was in EMR and noncategorical methods courses. We believe that if the modules were made available over an extended period of time (rather than just the one semester we used for the study) many more faculty would incorporate the materials as part of their course.

4. Do trainers demonstrate a positive attitude toward the modules after completion?

The attitude data from the 14 teacher trainers who completed the expert review of the series was positive for 7 of the 10 modules on all three dimensions of relevance and practicality, interest and flexibility, and clarity and effectiveness. "Troubleshooting in Teaching Concepts" (Module 5) received a negative rating on all three dimensions, while "Using Volunteers" (Module 1) and "Teaching Reading" (Module 6) received a marginal rating on the interest and flexibility dimension. This data should be interpreted with caution, however, as each module was viewed by only 2 to 6 faculty members.

5. Do trainees use the material as instructional resources to the course?

In total, 1081 viewings of the modules were made by trainees for which evaluation questionnaires were returned. When the faculty use and student use data were combined three groupings emerged: Low (50 to 90 viewings), medium (80 to 130 viewings), and high (130 to 180 viewings). The modules receiving greatest usage were "Observing and Recording a Child's Behavior" (Module 3) and "Teaching Reading to Handicapped Children" (Module 6).

A great majority of the trainees recommended usage of modules for other students in methods courses. However, recommended use was much lower for "Troubleshooting in Teaching Concepts" (Module 5) and "Improving Spelling Skills in Handicapped Learners" (Module 7). Also, serious problems were noted in some aspects of the following modules: "Troubleshooting in Teaching Concepts" (Module 5), "Teaching Reading to Handicapped Children" (Module 6) and for "Designing Art Experiences: Body Concepts" (Module 9).

6. Do trainees demonstrate a positive attitude toward the modules after completion?

The attitude of the trainees toward most of the modules was positive. This was demonstrated by their definite preference for learning the content through the modules, and by their recommendation that other trainees use 8 of the 10 modules.

Evaluation of the data from the semantic differential attitude scale revealed significant differences among the modules. Modules appear to differ along two dimensions: Effectiveness and clarity; and relevance practicality, efficiency and lack of clarity. By looking at how the modules were distributed along these two dimensions, four groupings emerged.

"Teaching Reading to Handicapped Learners" (Module 6), "Informal Reading Inventory" (Module 4) and "Observing and Recording" (Module 3) are relatively relevant and practical, and they communicate in an efficient, effective and clear manner.

"Parents as Partners" (Module 2) and "Personalized Questions" (Module 10) are the two most effective and clear modules, but they lack slightly in relevance, practicality and efficiency. "Decision-Making" (Module 8) lacks slightly more in both dimensions, while "Using Volunteers in the Classroom" (Module 1) lacks more in the relevance and practicality dimensions.

Lacking in effectiveness and clarity and relevance, as well as practicality and efficiency, "Deisgning Art Experiences: Body Concepts" (Module 9) should certainly be excluded from the series. "Troubleshooting in Teaching Concepts" (Module 5) has similar problems but to a lesser degree. Considering the other cited problems this module has, it should be excluded from the series.

"Improving Spelling Skills in Handicapped Learners" (Module 7) is the only module with a very poor ranking on effectiveness and clarity. While its relevance and practicality is acceptable, it definitely should be excluded from the series.

7. Do trainees demonstrate knowledge of the modules content upon completion?

8. Do trainees indicate increase in skill in using techniques covered by the modules upon completion?

Prior evaluation studies (Stolovitch, 1975; Windell, 1974; Williams, 1975; Brownsmith & Field, 1974) support significant increases in knowledge and/or skill after completing training for six of the ten modules. With these results in mind, we evaluated posttest mastery of content for all ten modules.

Using an 80% master of content as the desirable level of competence from students completing the module, we found only one module, "Personalized Questions" (Module 10), in which over 80% of the trainees mastered 80% of the content. "Parents as Partners" (Module 2) came close to reaching the objective of 80/80, with 73% of the trainees scoring at or about 80% mastery.

For two modules, around 60% of the trainees mastered 80% of the content; "Using Volunteers in the Classroom" (Module 1) and "Informal Reading Inventory" (Module 4). Between 40 and 50% of the trainees mastered 80% of the content on: "Teaching Reading" (Module 6) and "Troubleshooting in Teaching Concepts" (Module 5).

Only between 18 and 28% of the trainees mastered 80% of the content on; "Decision-Making Module" (Module 8), "Observing and Recording" (Module 3), "Designing Art Experiences: Body Concepts" (Module 9), and "Teaching Spelling Skills to Handicapped Learners" (Module 7).

9. What modifications can be made in future modules to increase their use of impact?

The data received from trainees and our experience with audiovisual modules indicate that the audiotape is the most critical part of the module. It creates the pace for the presentation and for most modules it is the major source of information. In future modules produced, it is suggested that the Center focus upon voice quality and pace of the tape. In addition, due to the low content mastery of some of the modules, the Center should include the mastery of content as one of the most important aspects of its developmental testing.

For the ten modules included in the study, it is suggested that the audiotape for "Teaching Reading to Handicapped Students" (Module 6) be

retaped at a slower pace. Also, slight modifications in the response book for "Observing and Recording a Child's Behavior" (Module 3) should result in increased ease of use.

B. Recommendations

Prior to implementation of this evaluation four major decisions were identified. This study was designed to provide information for these decisions. This section of the report provides our recommendations as related to these major decisions.

(1) Should the Bureau of Education for the Handicapped disseminate the TIPS FOR TEACHERS series to the field?

Based on the results of this evaluation study, we strongly recommend the dissemination of 6 of the 10 modules in their current form. These modules were accepted by both trainers and trainees, they seemed to fill needs in the 10 training programs, and they did not present any significant problems in their use by trainers and trainees. These modules are:

Using Volunteers in the Classroom (Module 1)

Parents as Partners in Teaching the Handicapped (Module 2)

Observing and Recording a Child's Behavior (Module 3)

Informal Reading Inventory (Module 4)

A Decision-Making Model for Teaching the Handicapped (Module 8)

Personalized Questions (Module 10)

Some slight modifications in the Response Book on Module 3 would probably result in increased ease of use, if the Bureau wishes to undergo the additional cost in this modification.

"Teaching Reading to Handicapped Students" (Module 6) warrants dissemination, based on its high use and acceptance. The audiotape, however,

definitely needs to be retaped at a slower pace. This will greatly improve the module and should not be of much expense to the Bureau.

The remaining three modules do not warrant the cost of duplicating and distribution to the field. Extensive changes would be necessary in "Improving Spelling Skills in Handicapped Learners" (Module 7) and "Troubleshooting in Teaching Concepts" (Module 5) to improve their clarity and effectiveness. "Designing Art Experiences: Body Concepts" (Module 9) is significantly lower than the other modules on relevance and practicality, and would require modifications in the content to make it acceptable for dissemination. It is recommended that these three modules not be disseminated.

(2) Should special education teacher trainers acquire and use the TIPS FOR TEACHERS series?

Our data suggest that the seven modules we recommend for dissemination serve as excellent material to be used as part of EMR and noncategorized methods courses in special education programs. Trainees who received and used the modules found the content important and the materials useful, and recommended their use in training programs.

(3) Should special education trainees use the series?

The information we received from the trainees suggested that trainees would definitely benefit from using the seven modules we have recommended for dissemination. Trainees saw the content of the modules as being important, they planned to use some or all of the knowledge they gained, and they recommended that other students use the materials in methods courses.

(4) Should modifications be made in training modules produced by CITH in the future?

Production of modules should be altered to assure consistent quality and pace of the audiotapes for modules. In addition, more emphasis should be placed in mastery of content as one of the major aspects of developmental testing.

APPENDIX A

APPENDIX A

Description of the Modules

This appendix describes each of the TIPS FOR TEACHERS modules under the following headings: general description, rationale, general objective, and specific objectives.

Using Volunteers in the Classroom, Module 1

General description. The audiotape integrates different components and presents the main narrative. A synchronized filmstrip is used for visual clarification. The trainee is required to make responses in the booklet. The tape tells the story of Mr. Scott and his experiences with volunteers in order to illustrate techniques for integrating volunteers into the schools, and to establish guidelines for their work.

Rationale. Handicapped children need individual attention. In recent years, increasing numbers of volunteers are providing assistance to teachers. The module helps the teacher anticipate, reduce, and/or eliminate potential problems. The techniques suggested enable teachers of handicapped children to make more effective use of volunteers.

General objective. The trainee will be able to plan and implement procedures for an effective volunteer program.

Specific objectives. Upon completion of the module, the trainee will be able to:

1. EXPLAIN the advantages and disadvantages of using volunteers in an EMR classroom.
2. PLAN an orientation program for new volunteers.
3. EXPLAIN the importance of the teacher holding meetings with

volunteers and SUGGEST alternative methods for these meetings.

4. EXPLAIN the importance of each volunteer keeping a log and INDICATE its content.

5. DESIGN a plan for anticipating and minimizing confrontations between volunteers and regular staff.

6. SET UP policies and procedures for lateness and absence of volunteers.

Parents as Partners in Teaching Handicapped Children, Module 2

General description. The audiotape, coordinated with the photographic visuals of the filmstrip, presents a mixture of narration and dialogue on getting parents to participate in the learning experiences of their handicapped children. A storyline is used in which Mrs. Merton, a relatively young teacher, learns about the value of parent-tutors and how to go about contacting, meeting with, and training the parents of her pupils so that they can effectively work with their own children. The trainee is frequently asked to refer to the individual response booklet, which is aimed at providing him/her with a blueprint for initiating and carrying out a parent-tutoring program on completion of the module.

Rationale. Teachers are aware that the needs of their children for individual instruction exceed the teacher's capacity to spend time tutoring children. Parent-tutoring programs can contribute to the child's learning and to the parent-child relationship. This module presents a blueprint for organizing a parent-tutoring program that will help teachers better meet the needs of the handicapped children in their class.

General objective. Upon completion of the module, the teacher shall design and implement a system which will enable parents to actively participate in the tutoring of their handicapped children.

Specific objectives. Upon completion of the module, the trainee will be able to:

1. PROVIDE a list of advantages in having parents tutor their children; PERSUADE a parent to try tutoring his child.

2. CARRY OUT a telephone conversation with a prospective parent-tutor as an initial step in designing a parent-tutoring program.

3. IDENTIFY the elements necessary in ensuring a successful contact with parents.

4. WRITE a letter for establishing initial contact with a parent as a first step in implementing a tutoring program.

5. PREPARE an outline for a parent-teacher conference aimed at recruiting the parents into a tutoring program.

6. DERIVE a set of training objectives for parent-tutors.

7. PREPARE specific guidelines for parents working with their children.

8. In a given situation, FORMULATE objectives for parents tutoring their own handicapped children.

9. PREPARE a detailed plan for training sessions for parent-tutors and IMPLEMENT this plan.

10. LIST and DESCRIBE various formats and techniques which parents can use in tutoring their handicapped children.

11. PREPARE a detailed plan for maintaining the motivation of parents in tutoring their children. IMPLEMENT this plan.

Observing and Recording a Child's Behavior, Module 3.

General description. The audiotape directs the use of the module, presents the content and refers the trainee to the response book for self-testing. The filmstrip clarifies and highlights the audio presentation.

Through stories and examples, the narration includes defining a behavior that can be observed, recording procedures for countable behavior, and analyzing procedures for infrequent but troublesome behavior.

Rationale. Programming for the individual needs of children, whether the needs be cognitive or affective, is aided by careful observation. Defining the problematic behavior and observing the child systematically enable the teacher to select appropriate curriculum materials or to apply effective behavior management strategies.

General objective. The trainee shall define a behavior observable in the classroom and design a recording system for observing that behavior.

Specific objectives. Upon completion of the module, the trainee will be able to:

1. DEFINE a behavior in terms of perceptible (visible, audible) action.

2. DISCRIMINATE between behaviors that are appropriately observed by the COUNT strategy and those that are appropriately observed by the ANALYZE strategy.

3. OUTLINE the steps in the COUNT strategy for observing frequent behaviors.

4. OUTLINE the steps in the ANALYZE strategy for observing infrequent behaviors.

5. DESIGN the record forms appropriate for both strategies.

Informal Reading Inventory, Module 4

General description. The first section of the module is a sound filmstrip which presents the basic rationale for the use of the informal reading inventory and demonstrates methods of construction. Three other

sections use the response book and audiotape protocols. These sections provide training in coding a child's performance on the informal reading inventory, analyzing and scoring this performance, and interpreting the score.

Rationale. Since there are few adequate generalizations which a teacher can apply to the teaching of reading to handicapped children, teachers require skills in diagnosing reading capacities. Standardized measures of reading performance have been shown to be inaccurate and impractical for diagnostic purposes. A more helpful instrument in assessing a child's reading performance is the informal reading inventory. This module shows teachers how to design and administer, score and interpret an informal reading inventory.

General objective. The trainee shall be able to construct, administer, and interpret the informal reading inventory.

Specific objectives. Upon completion of the module, the trainee will be able to:

1. Briefly DESCRIBE different reading levels in terms of percent of reading error and comprehension scores.

2. DESCRIBE the advantages and limitations of using an informal reading inventory.

3. DESCRIBE the sequence of activities in administering an informal reading inventory.

4. CONSTRUCT an informal reading inventory which includes word recognition lists, oral reading passages, and comprehension questions.

5. ADMINISTER an informal reading inventory to a child and CODE, SCORE, and ANALYZE his performance on the work recognition list, oral

reading passage, and comprehension questions.

Troubleshooting in Teaching Concepts, Module 5

General description. The audiotape introduces the concept of diagnosing student's capacities in learning concepts either through perceptual or mediational processing. The trainee is referred to the response book for exercises which clarify these concepts. Several methods for stimulating mediational processing are illustrated by examples from the elementary school curriculum. The response book provides instruction in discriminating and enriching the higher mediational processes.

Rationale. If teachers can identify how different students acquire and process information, then they can plan instruction that will capitalize on good processing habits. They can devise teaching strategies that will help students to improve their concept-formation skills. Troubleshooting is a diagnostic process that helps teachers to identify students' capacities with respect to concept-analysis.

General objective. The trainee will be able to describe perceptual and mediational processing, and to indicate strategies that stimulate both types of processing.

Specific objectives. Upon completion of the module, the trainee will be able to:

1. DESCRIBE the essential characteristics of perceptual processing and mediational processing.

2. Given samples of classroom interaction, IDENTIFY verbal exchanges that lead to perceptual processing and mediational processing.

3. LIST and DESCRIBE four kinds of associative process, namely; word associations, imagery, feelings and elaboration.

4. DESCRIBE the main features of classifying and inferring.

5. IDENTIFY instances of teacher behavior that call for the following thinking processes; associative, classifying and inferring.

Teaching Reading to Handicapped Children, Module 6

General description. The audiotape, coordinated with the photographic visuals of the filmstrip, presents a mixture of narration and dialogue on various strategies for teaching handicapped children to read. The narration covers characteristics of handicapped learners which influence the teaching of reading, the elements of a reading program, and some approaches to teaching reading.

Rationale. The ability to teach reading is one of the most important skills that a teacher must develop. Research investigating the reading of handicapped children has failed to identify a pattern of performance which typifies the handicapped learner. Therefore, the teacher must be aware of the basic skill areas which comprise reading, and of a range of instructional strategies to meet individual needs.

General objective. The trainee shall be able to describe a variety of strategies in teaching reading to handicapped children.

Specific objectives. Upom completion of the module, the trainee will be able to:

1. LIST three characteristics of handicapped learners which must be taken into account in teaching reading.

2. DESCRIBE the two major components of a reading program.

3. LIST and DESCRIBE three skill areas of basic reading.

4. LIST and DESCRIBE instructional strategies for teaching reading.

Improving Spelling Skills in Handicapped Learners, Module 7

General description. The module presents an approach to help teachers in diagnosing the causes of spelling errors, and in selecting an appropriate remedial technique. The tape tells the story of Ms. Lokerson, an elementary teacher whose students have a variety of spelling problems. The trainee is referred to the response book to examine children's spelling work in the light of analysis offered on the tape. A range of remedial strategies is described.

Rationale. Spelling requires the translation of sequences of sounds into sequences of visual symbols This complex task involves the successful interaction of many skills. Errors in spelling can usually be traced to difficulty in one or more of these skills. Recognition of the difficulty facilitates the choice of a remedial strategy that will have real pay-off for a particular child. Improving spelling skills depends on the integration of the teacher's knowledge of the child, of the potential areas of difficulty, and of appropriate remedial techniques.

General objective. The teacher trainee will be able to match major types of written spelling error with appropriate remediation techniques.

Specific objectives. Upon completion of the module, the trainee will be able to:

1. CLASSIFY spelling errors as phonetic or non-phonetic in origin.

2. DETERMINE which of a variety of causes is responsible for a given spelling error.

3. GENERATE one or more alternative techniques for teaching spelling.

4. INDICATE a rationale for providing a specialized technique for remediation of specific spelling errors.

5. CHOOSE an appropriate technique for remediation of various types of spelling errors.

A Decision-Making Model for Teaching the Handicapped, Module 8

General description. The module consists of a filmstrip, an audiotape cassette, and a response book. The audiotape portion integrates the components and presents the main narrative. Narration on the tape tells the story of a teacher learning to use the decision-making model as a guide for planning instruction for one of his pupils. Upon completion of the audiotape portion of the module, the trainee is referred to a case study in the response book. This case study is meant to be used by instructors according to the needs of their trainees. Nine problems based on the case study have been suggested.

Rationale. Teachers increasingly go beyond the use of standardized tests and seek information about the specific strengths and weaknesses of individual children. To acquire needed data on children requires a diagnostic-prescriptive approach in which the teacher's participation is extremely important. The decision-making model set forth in this module helps teachers to become systematic in their collection, evaluation and use of assessment data on the children in their classes.

General objective. Upon completion of the module and the accompanying exercises, the trainee will be able to use a decision-making model as a guide for planning instruction.

Specific objectives. Upon completion of the module, the trainee will be able to:

1. IDENTIFY the types of data that are educationally relevant.
2. ANALYZE and SYNTHESIZE the data.
3. ESTABLISH hypotheses based on available data.
4. TEST hypotheses.

5. EVALUATE results of testing hypotheses.

6. EVALUATE effectiveness of teaching.

Designing Art Experiences: Body Concept, Module 9

General description. The module presents a systematic way to assess the body concept of EMR learners as the children express the concept in their art work. The module illustrates body concept scale for use in assessment, provides practice in diagnosing the body concept in various children's drawings, and presents the basis for art activities which will improve the child's body concept.

Rationale. Although it is sometimes said that assessing children's art would spoil the child's enjoyment and freedom, study of children's art can provide valuable insight into the maturity of the child's body concept. The assessment can be accomplished without interfering with the child's creativity and leads to the provision of art experiences which enhance the child's body concept.

General objective. The trainee shall be able to describe the level of maturity of a child's body concept as it is expressed in his art work, and to design art experiences that stimulate differentiation of his body concept.

Specific objectives. Upon completion of the module the trainee will be able to:

1. LIST reasons for assessing body concept

2. APPLY body concept scale to children's drawings, and INTERPRET the scale.

3. DISCRIMINATE art experiences which could enhance body concept.

4. SELECT art experiences to enhance development of the body concept.

Personalized Questions, Module 10

General description. The audiotape presents the narration and dramatic incidents, while the filmstrip adds visual clarification. Narration includes interviews with Drs. Lynch and Dalton who have done research on personalized questions, and incidents from various teachers' classrooms as illustrations. Trainees are referred to the response book for practice in discriminating aspects of personalized questions.

Rationale. Handicapped children are frequently unable to participate in class discussions guided by conventional questioning techniques. The personalized questioning technique gives the children more opportunities to express themselves verbally. Because the questions are more open-ended, they give the children chances for success. There is some empirical evidence that personalized questions elicit longer and more fluent responses from children, thus enhancing their expressive capacities.

General objective. The trainee will be able to describe personalized questions and generate a set of personalized questions for a given lesson.

Specific objectives. Upon completion of the module, the trainee will be able to:

1. RECOGNIZE critical and irrelevant features of personalized questions.

2. IDENTIFY personalized questions among a given set of questions related to a given lesson material.

3. LIST the advantages of using personalized questions in the classroom in terms of the performance of handicapped children.

4. DISCUSS precautions to be observed in the use of personalized questions.

5. LIST common experiences of children in the classroom which may be incorporated in personalized questions.

6. LIST suitable formats for personalized questions.

7. PREPARE a series of personalized questions for a given lesson material.

8. PREPARE and TEACH a five-minute lesson in a microteaching situation.

APPENDIX B

APPENDIX B

Formative Evaluation

Formative evaluation typically followed a two-stage pattern. Stage one consisted of expert appraisal and stage two was comprised of representative user assessment. The following discussion describes the typical formative evaluation utilized by CITH and then presents those evaluation studies conducted within other evaluative paradigms.

Within the typical formative evaluation paradigm, expert appraisal comprised the first phase. This phase consisted of both an instructional and a technical review. The reviews determined the appropriateness, effectiveness, usability, and technical quality of each module.

As most experts contain a highly specialized knowledge base, and since several aspects of each module underwent examination (i.e., instructional relevance and accuracy, clarity and appropriateness of language content), a number of experts evaluated each unit. To allow for the greatest efficiency in the use of talent, no expert offered information about an aspect of the module which resided outside her or his specialty. All of the experts who examined the modules were members of the professional staff at CITH or were faculty members in the Department of Special Education at Indiana University. Guidance of the experts was utilized throughout the developmental stages of the modules.

The determination of whether the instructional material actually influenced or facilitated learning required more than the judgment of experts. The second stage, denoted as developmental testing, accomplished this purpose. During developmental testing, representative trainees reviewed the modules in order to test the instructional and motivational effects of the unit.

Instructional developers utilized the obtained data to modify the material and thereby increase its instructional effectiveness.

The developmental testing typically followed three steps. The initial testing was done on a one-to-one basis which made it possible to locate portions of the module requiring clarification and to initiate on-the-spot revisions. When an individual finished the module and revisions were complete, the module was retested. During the second testing, information was gathered concerning the effectiveness of both the instructional content of the module and the procedures under which it would be used. Based upon the results of the second testing, the module was further refined and then it assumed a semi-completed form. The third and last phase of developmental testing was conducted under conditions representative of those in which target trainees would be working. Trainees advanced through the module unassisted and at their own pace. Examinations of each subject's performance on the criterion exercises and personal interviews were used to identify remaining problems.

The three modules, "Observing and Recording a Child's Behavior," "Teaching Reading to Handicapped Children," and "A Decision-Making Model for Teaching the Handicapped," underwent formative assessment based upon evaluation paradigms differing from the evaluation model typically used by CITH. A brief description of each study follows, with resulting modifications presented in Table 13.

Observing and Recording a Child's Behavior, Module 3

Study One. The formative evaluation assessed trainees' attitudes toward the summer, 1973 version by asking:

1. How do trainees rate the physical aspects of the package?

2. How do trainees rate the content of the package?

3. Do trainees have prior skills in the area of observation and recording? Do their skills increase as a result of going through the module?

4. How would the trainees improve the module?

5. How well do the trainees perform on the response book exercises and the criterion tests?

A total of 136 subjects at six sites (situated in Texas and Indiana) participated in the evaluation. Three of the groups were paraprofessionals, two consisted of regular class teachers, and one group was comprised of special class teachers. Three sources contributed to the obtained data: (a) the response books completed by subjects while viewing the module; (b) the attitude questionnaire completed immediately after presentation of the module; and (c) the criterion test performed immediately after the module presentation.

As the module is completely self-instructional, the person conducting the session merely passed out materials and started the audiovisual presentation. After the presentation, subjects completed the criterion test and the attitude questionnaire. None of the persons conducting the sessions was involved in the development of the module, and the module appeared within an inservice workshop in each instance.

Study Two. The major purpose of the project was to discover whether formative evaluation of a module based on student opinion was as useful in producing effective instructional materials as was formative evaluation based on expert opinion. The instructional development model in use at

the Center included both types of formative evaluation, but since pertinent data on this question could conceivably cut costs of development (using students as evaluators would result in lower expenditures), this study was undertaken. The project's findings also indicated further modifications in addition to those changes implemented as a function of Study One's results.

Experts (both content and instructional development specialists) and special education students critiqued the module. Based on these separate groups of collected opinion, two revisions of the module were developed, resulting in three versions; (1) the original version, (2) the version revised on basis of expert opinion, and (3) the version revised on basis of student tryout. Subsequent testing of the three modules was conducted in order to determine whether differences in student interest and/or knowledge appeared in relation to the different versions.

Thirty volunteers from undergraduate special education classes at Indiana University were randomly selected from a pool of 60 to go through the module. (The other 30 volunteers reviewed the "Teaching Reading to Handicapped Children" module. See following section for discussion). Each subject watched the audiovisual presentation in an individual setting and then completed a questionnaire. The subject returned two weeks later to complete another short questionnaire and to receive five dollars.

The questionnaire that subjects completed immediately after reviewing the module consisted of: (a) a 12-item semantic differential, designed to measure subjective opinion of the package, (b) a specific item detailing

properties of the module, (c) items relating to knowledge of and skill in using the material covered in the module, (d) recommendations, and (e) content questions covering all versions of both modules.

The follow-up questionnaire analyzed (a) preference for format, (b) subjective determination of how much material is remembered, (c) usefulness of material, and (d) content questions designed to determine how much information subjects could actually recall.

The results indicated no significant differences between formative evaluation methods based upon student opinion and formative evaluation based upon expert opinion.

Teaching Reading to Handicapped Children, Module 6

For cost effectiveness, evaluation of the module occurred in conjunction with the "Observing and Recording a Child's Behavior" module, Study Two. To reiterate, experts and special education students reviewed the module and, based upon these separate groups of collected opinion, two revisions of the module were completed. The resulting three versions included (1) the original, (2) the expert opinion revision, and (3) the student opinion revision. Thirty volunteers from undergraduate special education classes were randomly assigned to review the module. The subjects then completed a questionnaire and, as in the previous study, returned two weeks later to perform another short questionnaire and to collect five dollars.

A Decision-Making Model for Teaching the Handicapped, Module 8

The formative evaluation focused upon the following questions:

1. How do trainees rate the videotape which precedes the package?
2. How do trainees rate the content of the package?

3. How do trainees rate their knowledge and skill in using the concepts before and after going through the package?

4. Do trainees understand the decision-making model?

5. How do students rate the homework assignment?

A total of 137 subjects at six sites participated. The subjects were participants in the Indiana University 1974 Summer Reading Conference entitled "Reading and the Disadvantaged and Learning Disabled Child." The module was presented as a part of the conference, with students receiving three hours of graduate credit for participating in the conference. The six sites consisted of the main and five of the regional campuses of Indiana University.

Data was obtained from seven sources:

1. The response books completed by subjects as they went through the module.

2. The semantic differential completed after the videotape presentation.

3. The semantic differential completed after the module.

4. The Test 1 package questionnaire.

5. The Test 2 content questionnaire.

6. The homework assignments completed by subjects.

7. The Test 3 homework assignment questionnaire.

Students worked through the module during the fourth three-hour session of the Summer Reading Conference. First, the students watched a videotape of a group discussion on "Training Teachers in Decision-Making," and then they completed a 12-item semantic differential on the videotape presentation. Subsequently, the Decision-Making module was shown with appropriate pauses for students to work the exercises in the response book. At the conclusion

of the module, subjects completed the 12-item semantic differential on the module, the package questionnaire, and the content questionnaire. Students took the response books with them and had two weeks to work on the homework assignment. At the end of two weeks, students turned in their homework assignments and response books (both of which were later returned to them), and filled out the homework evaluation.

Table 13

FORMATIVE EVALUATIONS

MODULE NAME	EVALUATION	MODIFICATIONS INDICATED
3. Observing and Recording a Child's Behavior Study 1	Summer, 1973 "Formative Evaluation of the 'Observing and Recording a Child's Behavior' Module"	1. Cartoons eliminated from set of slides. Those which were visual jokes were dropped completely and cartoons depicting teachers and pupils were replaced by live shots of real teachers and pupils in classrooms. 2. Instructions given for completing response book revised by giving them briefly on the tape and then repeating in detail on the appropriate response book page. 3. Number of examples of teachers using the process was increased. 4. Sequence of response book exercises changed and exercises made more structured.
Observing and Recording a Child's Behavior Study 2	Fall, 1973 "Effectiveness of Expert Opinion and Student Opinion in Formative Evaluation of Instructional Modules"	1. Classroom applications of the procedures sharpened. 2. Incorporated explicit decision step for discrimination between situations where counting strategy or analyzing strategy would be appropriate. Flowchart documenting the process of choosing a strategy added to response book. 3. Slides redesigned and rephotographed to improve technical quality of pictures and increase relationship to text. 4. Videotape portion eliminated. 5. Script for audiotape modified and rerecorded to improve technical quality.

6. Teaching Reading to Handicapped Children	Fall, 1973 "Effectiveness of Expert Opinion and Student Opinion in Formative Evaluation of Instructional Modules"	1. Classroom applications of the procedures sharpened. 2. Classroom examples increased.
8. A Decision-Making Model for Teaching the Handicapped	1973 "Formative Evaluation of a Decision-Making Model for the Teaching of the Handicapped"	1. Number of objectives reduced and objectives clarified. 2. Number of times trainee stopped the tape to work in response book reduced. 3. Slides redesigned and rephotographed to improve technical quality of pictures and increase relationship to text. 4. Videotape portion eliminated. 5. Script for audiotape modified and rerecorded to improve technical quality.

APPENDIX C

Center for Innovation in Teaching the Handicapped
2805 East Tenth Street, Bloomington, Indiana 47401

TIPS FOR TEACHERS EVALUATION PROJECT

EXPERT REVIEW - SERIES QUESTIONNAIRE

Name:_____ Date:_____

University:_____

1. Based on your viewing of modules in the past three days, are the content and skills covered in the TIPS FOR TEACHERS series important to include in the EMR methods classes?

   _____ Yes

   _____ No

2. Based on your viewing, are the content and skills covered in the TIPS FOR TEACHERS series important to include in methods classes for other handicapping conditions?

   _____ Yes If yes, list handicapping conditions_____

   _____ No

3. Should the TIPS FOR TEACHERS series be disseminated to teacher training institutions?

   _____ Yes

   _____ No

4. In your opinion, would it be beneficial for special education teacher trainers teaching EMR methods courses to acquire and use the TIPS FOR TEACHERS series?

   _____ Yes

   _____ No

5. In your opinion, would it be beneficial for special education teacher trainees to use the series as an adjunct to coursework in preparation for working with handicapped students?

   _____ Yes

   _____ No

6. What modifications would make future training modules produced by CITH more effective or useful?

7. In your opinion, what are the strengths and weaknesses of the TIPS FOR TEACHERS series?

8. For whom (among teacher trainers and trainees) is the series potentially most useful?

9. What is your overall opinion of the series and its possible usefulness in training teachers to work with handicapped students?

10. Please make any other comments you wish about the series.

Center for Innovation in Teaching the Handicapped
2805 East Tenth Street, Bloomington, Indiana 47401
Phone 812-337-5847

TIPS FOR TEACHERS EVALUATION PROJECT
EXPERT REVIEW-MODULE QUESTIONNAIRE

NAME: _____ DATE: _____

UNIVERSITY: _____

Courses currently taught and level of students in each course (e.g., EMR methods, undergraduate):

_____

_____

_____

_____

_____

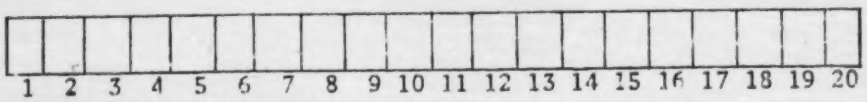
_____

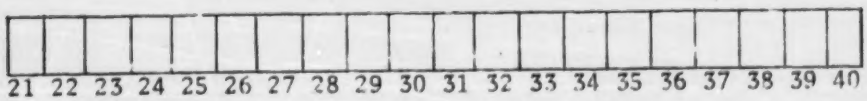
Area of specialization of most of people in your course: _____

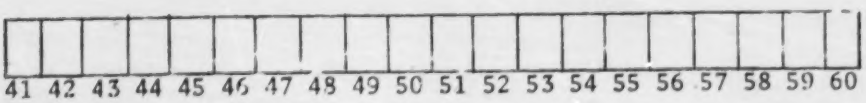
_____

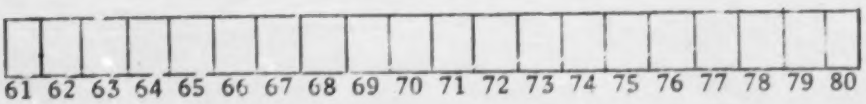
_____

THIS BOX IS FOR CODING PURPOSES. Please do not write in the boxes.









Module_____

Circle the appropriate number to indicate your rating of these materials with respect to the methods course(s) you teach.

clear	1	2	3	4	5	6	unclear
appropriate	1	2	3	4	5	6	inappropriate
practical	1	2	3	4	5	6	impractical
interesting	1	2	3	4	5	6	boring
useful	1	2	3	4	5	6	useless
effective	1	2	3	4	5	6	ineffective
efficient	1	2	3	4	5	6	inefficient
beneficial	1	2	3	4	5	6	not beneficial
valuable	1	2	3	4	5	6	valueless
flexible	1	2	3	4	5	6	inflexible
stimulating	1	2	3	4	5	6	dull
relevant	1	2	3	4	5	6	irrelevant

1. Is the content and skill area covered in this module important to include in the training of teachers of EMR students?

   _____ Yes

   _____ No

2. Is the content and skill area covered in this module important to include in the training of teachers who work with other handicapping conditions?

   _____ Yes If yes, list handicapping conditions_____

   _____ No

3. Does the module overcome the following limitations of handouts:

   _____ Yes _____ No Handouts lack specification of skills in behavioral terms.

   _____ Yes _____ No Handouts are limited to print medium.

   _____ Yes _____ No Handouts give trainees little opportunity for trainees to engage in instructional skill development.

   _____ Yes _____ No Handouts give no feedback to trainees on skill attainment.

   _____ Yes _____ No Handouts are not criterion-referenced to teacher performance.

4. If it were available, would you use this module as part of the methods courses that you teach?

   _____ Yes

   _____ No If no, why not?_____

   _____

   _____

   _____

APPENDIX D

FIRST SECTION OF EVALUATION

Questionnaire Same for All Modules

Please answer the following questions. Note: All responses on these pages are for the evaluators' use only. Your responses are strictly confidential and will not be seen by your instructor.

Name: _____ Date: _____

University: _____ City/State: _____

Age: _____ Sex: _____

Course Name: _____ Instructor: _____

Program: Check one box in each column.

Undergraduate	☐	Special Education	☐
Graduate	☐	Regular Education	☐
		Other _____	☐

THIS BOX IS FOR CODING PURPOSES. Do not write in the boxes.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24

25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48

49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72

73	74	75	76	77	78	79	80

Circle the appropriate number to indicate your rating of these materials with respect to your needs.

clear	1	2	3	4	5	6	unclear
appropriate	1	2	3	4	5	6	inappropriate
practical	1	2	3	4	5	6	impractical
interesting	1	2	3	4	5	6	boring
useful	1	2	3	4	5	6	useless
effective	1	2	3	4	5	6	ineffective
efficient	1	2	3	4	5	6	inefficient
beneficial	1	2	3	4	5	6	not beneficial
valuable	1	2	3	4	5	6	valueless
flexible	1	2	3	4	5	6	inflexible
stimulating	1	2	3	4	5	6	dull
relevant	1	2	3	4	5	6	irrelevant

Go on to the next page.

1. Were there any problems with: (check where appropriate)

Yes	No	
_____	_____	the audiotape
_____	_____	the filmstrip
_____	_____	the response book

For each yes, please describe the problem:_____

_____

_____

_____

2. Is the content of this module important for you to know in teaching handicapped children?

Yes_____

No _____

3. Given a choice, how would you have preferred to learn the material in this module? Check one.

Read a 3-to 5-page summary handout. _____

Listen to a 15-to 20-minute lecture. _____

Go through the TIPS FOR TEACHERS module as I did. _____

4. Rate your knowledge of the material covered in this module before going through this package:

I knew a great deal. 1 2 3 4 5 I knew nothing.

Go on to the next page.

5. Rate your increase in knowledge about the material covered in this module as a result of going through this package:

   Great increase 1 2 3 4 5 No increase

6. Rate your skill in the techniques covered in this module before going through this package:

   Great skill 1 2 3 4 5 No skill

7. Rate your increase in skill in using the technique covered in this module as a result of going through this package:

   Great increase 1 2 3 4 5 No increase

8. Do you plan to use the techniques and content of this module in teaching handicapped students?

   _____Yes, all aspects

   _____Yes, some aspects

   ___No

9. Would you recommend that students in methods courses go through this package?

   _____Yes

   _____No

Go on to the next page.

10. What did you like about this package?

11. What did you dislike about this package?

12. What changes should we make in future modules?

Go on to the next page.

USING VOLUNTEERS IN THE CLASSROOM

POSTTEST

1. What are some of the advantages and disadvantages of using volunteers in an EMR classroom?

2. Assume that you are a special education teacher and that three volunteer aides have been assigned to you. Outline an orientation program for these new volunteers.

3. Why is it important for the teacher and the volunteers to have regular meetings? What are different ways in which these meetings may be held?

USING VOLUNTEERS IN THE CLASSROOM

POSTTEST

4. What are the advantages of each volunteer keeping a log of his/her activities? What information should this log contain?

5. How would you avoid serious confrontations between your volunteers and the regular staff of the school?

6. Prepare a memorandum for your volunteers, outlining policies regarding absence and lateness.

PARENTS AS PARTNERS

POSTTEST

1. What advantages could you suggest for a fellow teacher to pass on to parents he/she wants to involve in a parent-tutoring program?

2. If you were preparing to telephone parents to discuss ways they could help their children, what basic rules would you follow?

3. Make a list of elements necessary for ensuring a successful contact with a parent.

4. Write a short letter inviting Mr. and Mrs. Parent to meet with you and discuss ways you can work together to help their child, Billy.

OBSERVING AND RECORDING A CHILD'S BEHAVIOR

POSTTEST

1. Write two definitions of behaviors that are visible and therefore easily observable.

   a)

   b)

2. Below is a list of behaviors. Mark with a C those which would be observed using the COUNT strategy. Mark with an A those which would be observed using the ANALYZE strategy.

   _____ a) Errors on Dan's mathematics papers

   _____ b) Brenda bursts into tears and bolts from the room

   _____ c) Jeanine works independently for five minutes

   _____ d) Carla works cooperatively in discussion group for ten minutes

   _____ e) Gretchen curls up beside her desk and refuses to talk to anyone

3. Outline the steps in the COUNT strategy.

OBSERVING AND RECORDING A CHILD'S BEHAVIOR

POSTTEST

4. Outline the steps in the ANALYZE strategy.

5. Mr. Peters plans to observe Jerry's class participation in social studies. He wants to count the number of times Jerry raises his hand to contribute to discussion during the forty-minute class. Design the forms Mr. Peters will need to observe Jerry: label each form and indicate all the information which needs to be included on each form.

6. Mrs. Sanderson plans to observe Paul who occasionally comes into class, sits in his chair and stubbornly refuses to do anything whatsoever. Help her out by designing forms for her to use for observation. Make up whatever information you need to include. Label each form.

IRI POSTTEST

1. Briefly describe different reading levels in terms of percent of reading errors and comprehension scores.

2. Describe the advantages and limitations of using an informal reading inventory.

3. Describe the sequence of activities in constructing an informal reading inventory.

4. Describe the sequence of activities in administering an informal reading inventory.

TROUBLESHOOTING IN TEACHING CONCEPTS

POSTTEST

Answer the following questions in the space provided.

1. Describe perceptual processing.

2. Describe mediational processing.

TROUBLESHOOTING IN TEACHING CONCEPTS

POSTTEST

3. List and describe four kinds of associative process.

4. Describe classifying and inferring.

TROUBLESHOOTING IN TEACHING CONCEPTS

POSTTEST

5. Here are some transcripts of teacher talk in the classroom. On the line mark P if the child is led to perceptual processing; mark M if the child is led to mediational processing.

_____ a. Teacher: Today we are going to read a biography. Who knows what a biography is?

_____ b. Teacher: Frances, point to the large red circle.

_____ c. Teacher: Who can tell, without looking at the map, what the capital of Oregon is?

_____ d. Teacher: What did you notice in the aquarium today?

_____ e. Teacher: Is a bat a bird or a mammal?

6. Here is what some teachers said in their classes. On the line mark C, A, or I to show that the teacher's statement would lead to Classifying, Associating or Inferring in the students.

_____ a. Teacher: How would you feel if you came around the bend and saw the road stopped?

_____ b. Teacher: How is a letter carrier like a telephone operator?

_____ c. Teacher: You noticed that the plants are not the same weight anymore; what does that tell you?

_____ d. Teacher: When you hear the word "purple," what are you reminded of?

_____ e. Teacher: Do the underlined words serve the same purpose in each sentence?

TEACHING READING TO HANDICAPPED CHILDREN

POSTTEST

1. List three characteristics of handicapped children which would influence your teaching of reading to the children.

2. List and describe three skill areas in basic reading.

3. List and describe three instructional strategies for teaching reading.

IMPROVING SPELLING SKILLS IN HANDICAPPED LEARNERS

POSTTEST

1. Circle the pair of words in each box which shows the misspelling of a phonetic word.

can - cen come - cum	have - haf help - hlp	spend - spen said - siad
what - whut when - whin	until - intul use - uze	many - mene much - mush

2. List any two of the dictated words above which are non-phonetic words.

(1) _____

(2) _____

3. The following spelling errors are taken from various spelling papers. On the line indicate the apparent cause of the errors by writing one of the key letters below. (Correct spelling is given to the right.)

V poor visual discrimination or visual-motor coordination

M poor visual memory

S error in sound/symbol association or relationships

D dialectic differences

A poor auditory discrimination

R faulty rule learning

_____ (1) [Sam is goin to / Can ya find my / We play ball with]

_____ (2) [se she / shent sent / wis wish]

____(3) against
beter better
attenshun attention
disgusted

____(4) oence once
peipel people
prize
hihgt high
stamp

____(5) ran
haf have
pt pet
not

4. Although spelling texts provide a variety of activities and exercises to help pupils learn to spell, there are many other materials and techniques which can be used. List four of these alternatives which can help remediate spelling problems.

(1) _____

(2) _____

(3) _____

(4) _____

5. Choose the most appropriate answer in each of the following situations by circling the letter in front of your choice.

(1) Jeffery has very poor eye-hand coordination, so his teacher encourages him to use magnetic letters to practice forming his spelling words. This technique is appropriate because

a. the motor practice develops writing skills.

b. the individual letters cannot be reversed on the board.

c. the motor expression used is less demanding.

d. the sound of the letters on the board are helpful.

(2) Sarah continues to have great difficulty remembering the visual form of nonphonetic words. Her teacher encourages her to outline the "hard" part of words in colored crayon. This technique should help Sarah by

a. providing her with an additional motor clue.

b. providing her with an additional visual clue.

c. providing her with a needed auditory clue.

d. providing her with a needed tactile/kinesthetic clue.

(3) Billy finds the association of sounds with specific symbols difficult, resulting in both reading and spelling errors. His teacher decided to use a flashcard reader rather than a tape recorder. This decision was appropriate for Billy because

a. Billy will have to respond quickly as the card moves through the machine.

b. Billy will not have to write any information.

c. Billy can combine auditory and tactile/kinesthetic skills.

d. Billy can combine auditory and visual skills.

(4) Connie can spell orally very well but has difficulty with written spelling tests. Her written words contain reversed individual letters as well as incorrect sequences of letters. Connie's teacher decided to have Connie trace the troublesome words on the blackboard and in sand. This procedure is appropriate because

a. Connie's auditory reception will be utilized.

b. Connie's tactile/kinesthetic reception will be utilized.

c. Connie's motor skill is one of her strengths.

d. Connie's tactile/kinesthetic activity will strengthen her verbal skills.

6. For each of the following spelling papers, determine the <u>most appropriate</u> remediation material or technique. Write the letter of the remediation approach you choose on the line.

(Continued on the next page.)

_____(1)	Sam is goin to Can ya find my	a. develop flashcards to present letter symbols and a related picture for each sound
_____(2)	se she shent sent	b. stress the use of color to draw attention to certain word parts
_____(3)	beter better attenshun	c. plan many listening experiences using tape recorder and follow-up group discussions
_____(4)	oence once peipel people	d. use the flashcard reader to present pairs of sounds which are confused by the child
_____(5)	haf have make pt pet	e. explore the ability to learn by the deductive method of giving a rule and finding examples
		f. determine the visual perceptual ability and select a remediation approach

Below are 16 true-false items about the decision-making model. Feel free to refer to the model to answer the items.

True	False	
____	____	Outside sources of data could include pupil records or parent data.
____	____	In situ data refers to data collected by outside sources.
____	____	"In the ball park" hunches on the nature of the child's needs are developed on the basis of the data that has been gathered.
____	____	The results of standardized tests should not be considered true representations of how a child can perform because of the inherent problems of standardized instruments.
____	____	Observations from former teachers are usually an accurate assessment of how a child can perform.
____	____	If you decide you need more data, then you establish the need for consultants.
____	____	Once you have developed your hunches, you must decide whether you need a task analysis or a learner analysis.
____	____	Instructional needs and strategies for the child are developed on the basis of the diagnostic teaching lesson.
____	____	If the diagnostic teaching lesson does not work, it is necessary to collect more data.
____	____	It is never necessary to perform a second task analysis and learner analysis.
____	____	A task analysis consists of analyzing the sequence of teaching steps and analyzing situational aspects.
____	____	Determining motivational interest factors is a part of the task analysis.
____	____	After determining possible teaching strategies, you must make a decision about designing new materials.
____	____	After finding suitable materials, it is time to implement the solution.
____	____	After monitoring the child's performance, you should analyze the effectiveness of the teaching performance.
____	____	If the materials are invalid in terms of pupil gains and objectives, you must return to Stage 2.

DESIGNING ART EXPERIENCES: BODY CONCEPT

POSTTEST

1. What are the advantages of assessing children's body concept?

2. Look at the drawings on the next page. Rate each of these children's drawings on the sophistication of the body concept that the child has portrayed. Marlen's scale runs from 1 for the most primitive to 5 for the most sophisticated body concept. Write the number on the appropriate line.

A_____	F_____
B_____	G_____
C_____	H_____
D_____	I_____
E_____	J_____

3. Look back over your ratings in question 2. Write the letters of drawings done by children who would most benefit from a structured program of art activities in body concept.

4. Put a check mark next to the activities which would be suitable for enhancing body concept.

_____ a demonstration by a karate teacher.

_____ making a model of a dinosaur.

_____ watching animals walk.

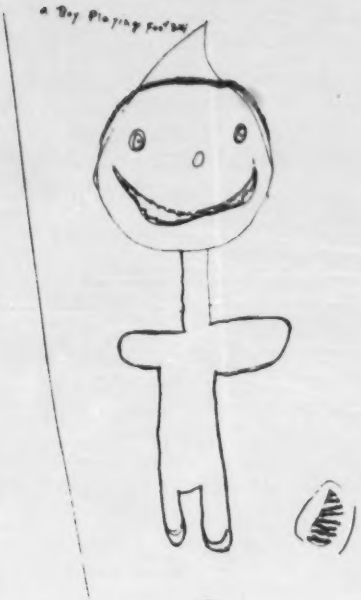
_____ dancing blindfolded while my partner can see.

_____ looking at pictures of ourselves as babies.

_____ planning a ceramic ash tray.

A

B



C

D

E

F

G

H

I

J

_____ eating a Japanese meal in the Japanese style.

_____ arranging a bowl of flowers.

_____ making a relief map of my house.

_____ watching a movie of baseball game in slow motion.

PERSONALIZED QUESTIONS

POSTTEST

1. Given below are a number of statements about personalized questions. Check the ones which are true:

   ( ) 1. All personalized questions have a personal element involving the learner.

   ( ) 2. All personalized questions are addressed to individual learners and not to a group.

   ( ) 3. All personalized questions are related to some part of the content of the lesson.

   ( ) 4. All personalized questions have the same standard form.

   ( ) 5. Personalized questions always refer to the learner's past experiences.

2. Here is a story from a social studies text:

   "In Colonial times a watchman walked on the streets. Sometimes he might take a lost cow home to its owner. Sometimes the watchman would be an alarm clock. If people had to get up early, they would ask the town watchman to wake them up.

   "The watchman also tried to make sure that people obeyed the laws. It was against the law to be out at night. When he saw someone out after dark, the watchman would ask, 'What are you doing?' 'Where are you going?' If the person could not give a good answer, the watchman would scold him and take him back home."

   These are some questions a teacher used in teaching this lesson. Check those which are examples of personalized questions:

   ( ) 1. When did this story take place?

   ( ) 2. Who tried to make sure that people obeyed the laws?

   ( ) 3. Who makes you obey laws today?

PERSONALIZED QUESTIONS

POSTTEST

( ) 4. Do you use an alarm clock which is the same as what the colonial people used?

( ) 5. Why are you turning the pages of your book?

( ) 6. Who asked "What are you doing?"

( ) 7. Do you think the watchman was a useful person to have in colonial times?

3. List some possible disadvantages and limitations of the use of personalized questions.

4. What are some precautions to be observed in the use of personalized questions?

PERSONALIZED QUESTIONS

POSTTEST

5. Make a list of some common experiences of third-grade children which can form the basis for personalized questions.

6. Write five personalized questions that you would ask third-grade students.

PERSONALIZED QUESTIONS

POSTTEST

7. Read the following story carefully and prepare five personalized questions based on its content.

"People in Colonial times had laws for every day of the week, but the laws for Sunday were the most important ones. On Sundays people couldn't do many of the things they usually did. A man couldn't cut his hair or shave. It was against the law for children to kiss their parents on Sunday.

"Every family had to attend church on Sunday. Even babies had to go to church. Babies didn't have to sit up, though. They were put in playpens where they could lie down.

"Church lasted for hours. During the service, a church official called the tithing man was on the lookout for people who fell asleep. The tithing man carried a pole. At one end of the long pole was a wooden knob. The tithing man would given children who fell asleep a knock on the head with the knob. On the other end of the long pole was a furry fox tail. The tithing man used the furry tail to tickle the noses of old men and women who fell asleep."

APPENDIX E

TIPS FOR TEACHERS EVALUATION

FACULTY USERS IN FIELD SITES

Name: _____ Date: _____

University: _____

1. Please check whether and how you used the modules with students.

	Did Not Use	Used With Individual Students	Used With Groups of 2-4	Used With Class Groups
Using Volunteers in the Classroom				
Parents as Partners in Teaching the Handicapped				
Observing and Recording A Child's Behavior				
Informal Reading Inventory				
Troubleshooting in Teaching Concepts				
Teaching Reading to Handicapped Children				
Improving Spelling Skills in Handicapped Learners				
A Decision-Making Model for Teaching the Handicapped				
Designing Art Experiences: Body Concept				
Personalized Questions				

FACULTY USERS

2. Most of the people in my course(s) specialize in:

_____ MR

_____ LD

_____ BD

_____ Regular Education Please Specify: _____

3. I tested the student's learning of the module content. _____ Yes

_____ No

4. There were problems with (check only which apply):

_____ the filmstrip

_____ the audiotape

_____ the response book

_____ the student questionnaire

5. In general, what was the student's response to the filmstrip-audiotape-book format?

6. In general, what was the student's response to content of the module(s)?

7. What was your purpose for selecting the module(s) you used?

8. Based on your use of the modules, are the content and skills covered in the TIPS FOR TEACHERS series important to include in EMR methods classes?

_____ Yes

_____ No

9. Based on your use, are the content and skills covered in the TIPS FOR TEACHERS series important to include in methods classes for other handicapped conditions?

_____ Yes If yes, list handicapped conditions_____

_____ No

10. Should the TIPS FOR TEACHERS series be disseminated to teacher training institutions?

_____ Yes

_____ No

11. In your opinion, would it be beneficial for teacher educators teaching EMR methods courses to acquire and use the TIPS FOR TEACHERS series?

_____ Yes

_____ No

12. In your opinion, would it be beneficial for special education teachers in training to use the series as an adjunct to coursework in preparation for working with handicapped students?

_____ Yes

_____ No

13. Does the module overcome the following limitations of handouts:

_____ Yes _____ No Handouts lack specification of skills in behavioral terms.

_____ Yes _____ No Handouts are limited to print medium.

_____ Yes _____ No Handouts give trainees little opportunity for trainees to engage in instructional skill development.

_____ Yes _____ No Handouts give no feedback to trainees on skill attainment.

_____ Yes _____ No Handouts are not criterion-referenced to teacher performance.

14. What modifications would make future training modules produced by CITH more effective or useful?

15. In your opinion, what are the strengths and weaknesses of the TIPS FOR TEACHERS series?

16. For whom (among teacher trainers and trainees) is the series potentially most useful?

17. What is your overall opinion of the series and its possible usefulness in training teachers to work with handicapped students?

18. Would you use the modules again?

19. Please make any other comments you wish about the series.

APPENDIX F

INSTRUCTIONS TO STUDENTS

1. This envelope should contain a response book and a questionnaire of several pages. The title of the response book should match the heading on the front of the questionnaire. Check this now.

2. Go through the filmstrip, audiotape and response book portions of the module in accordance with your instructor's directions.

3. Fill out the questionnaire completely after you complete the filmstrip audiotape portion of the module: Your responses are confidential and will not be seen by your instructor.

4. Insert the completed questionnaire in the envelope. Put the envelope in the drop box.

5. The response book is for you to keep.

APPENDIX G

TIPS FOR TEACHERS EVALUATION

STUDENT USERS IN FIELD SITES

Name: _____ Date: _____

University: _____

1. Please check whether and how you used the modules with students.

	Did Not Use	Used With Individual Students	Used With Groups of 2-4	Used With Class Groups
Using Volunteers in the Classroom				
Parents as Partners in Teaching the Handicapped				
Observing and Recording A Child's Behavior				
Informal Reading Inventory				
Troubleshooting in Teaching Concepts				
Teaching Reading to Handicapped Children				
Improving Spelling Skills in Handicapped Learners				
A Decision-Making Model for Teaching the Handicapped				
Designing Art Experiences: Body Concept				
Personalized Questions				

STUDENT USERS

2. What is your specialization area?

_____ MR

_____ LD

_____ BD

_____ PH

_____ Regular Education. Please Specify: _____

3. There were problems with (Check only which apply):

_____ the filmstrip

_____ the audiotape

_____ the response book

_____ the student questionnaire

4. How did you like the filmstrip-audiotape-book format?

5. Do you feel that going through the module was the best way to learn the material covered?

6. What did you think of the content of the module(s) you used?

7. Were there any of the modules which you feel especially positive about? Why?

8. Were there any of the modules which you feel especially negative about? Why?

9. How were the module(s) you used selected?

10. Did you lose interest in the modules after going through a number of them?

11. The next time this class is taught would you recommend that modules from the TIPS FOR TEACHERS series be included? Why?

12. Are there any specific ones that should be included?

13. Are there any specific ones that should not be included?

14. In your opinion, would it be beneficial for special education teachers in training to use the series as an adjunct to coursework in preparation for working with handicapped students?

15. What improvements or changes would you suggest for the modules?

16. What is your overall opinion of the series and its usefulness in training teachers to work with handicapped students?

17. Do you have any other comments you wish to make about the series?

APPENDIX H

TIPS FOR TEACHERS EVALUATION

CURRENT OWNERS QUESTIONNAIRE

Name: _____ Organization: _____

1. Which modules do you (or your department, or your library/resource center) own?

_____1. Using Volunteers in the Classroom

_____2. Parents as Partners in Teaching Handicapped Children

_____3. Observing and Recording a Child's Behavior

_____4. Informal Reading Inventory

_____5. Troubleshooting in Teaching Concepts

_____6. Teaching Reading to Handicapped Children

_____7. Improving Spelling Skills in Handicapped Learners

_____8. A Decision-Making Model for Teaching the Handicapped

_____9. Designing Art Experiences: Body Concept

_____10. Personalized Questions

2. The students who have used the modules are: (check one in each column)

_____ Undergraduate

_____ Graduate Students

_____ Special Education

_____ Regular Education

3. The modules have been used:

_____ By individuals

_____ By groups of 3-5

_____ By groups larger than 5

4. How many students have used the module(s)?

5. How did the students like the module?

6. What was the impact of the module on student learning?

7. For what purposes did you select the module(s) you own?

8. Was the module satisfactory for your purposes?

9. Any comments you would like to make?

APPENDIX I

CITH

Center for Innovation in Teaching the Handicapped
School of Education, Indiana University
2805 East Tenth Street, Bloomington, Indiana 47401
Phone 812/337-5847

April 19, 1976

Dear Colleague:

The Center for Innovation in Teaching the Handicapped is in the process of collecting evaluations of the modules in the Tips for Teachers series. Since you purchased a field test version of one or more modules, we would very much appreciate hearing your opinions of the module(s). We are enclosing a brief questionnaire and a stamped, pre-addressed envelope to facilitate your participation. You can contribute to the quality of instructional materials available in the field by helping to realistically and thoroughly document the strengths and weaknesses of the Tips for Teachers Series.

If you would like a copy of our updated Directory of Materials, please make a note on the bottom of the questionnaire. We would be glad to send you a copy.

Cordially,

Keith Brownsmith
Assistant Director for Evaluation

KB:pm
Enclosures

CITH

Center for Innovation in Teaching the Handicapped
School of Education, Indiana University
2805 East Tenth Street, Bloomington, Indiana 47401
Phone 812/337-5847

May 27, 1976

Dear Colleague:

The Center for Innovation in Teaching the Handicapped is in the final stage of collecting evaluations of the modules in the Tips for Teachers series. The evaluation report will aid the Bureau of Education for the Handicapped in determining whether any or all of the modules should be available for the public-at-large.

Since you purchased a field test version of one or more modules, we would very much appreciate hearing your opinions of the modules.

We are enclosing a brief questionnaire and a stamped pre-addressed envelope to facilitate your participation. You can contribute to the quality of instructional materials available in the field by helping to realistically and thoroughly document the strengths and weaknesses of the Tips for Teachers series.

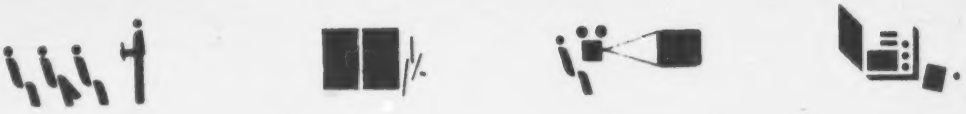
If you would like a copy of the final report evaluating the Tips for Teachers series or a copy of our updated Directory of Materials, please indicate on the bottom of the questionnaire.

And thank you for your help.

Cordially,

Keith Brownsmith
Assistant Director for Evaluation

KB:nz
Enclosures



CITH

Center for Innovation in Teaching the Handicapped
School of Education, Indiana University
2805 East Tenth Street, Bloomington, Indiana 47401
Phone 812/337-5847

July 1, 1975

Dear Colleague:

Since you purchased a field test version of one or more modules produced by the Center for Innovation in Teaching the Handicapped we need to hear your opinions of the modules.

Enclosed is a brief questionnaire and a stamped pre-addressed envelope to facilitate your participation.

If you would prefer to answer the questionnaire by phone, call me collect at 812-337-5847. Your opinion is definitely needed for assessing whether to disseminate any or all of the modules.

Thank you for your help.

Cordially,

Marcia Maguire, PhD
Coordinator of Evaluation

MM/nz

APPENDIX J

Table of Means and Standard Deviations on Semantic Differential Scale for Experts

	M1		M2		M3		M4		M5		M6		M7		M8		M9		M10	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Clear	1.67	1.16	2.00	0	1.75	.50	1.5	.55	4.5	2.12	2.00	1.00	1.75	.96	1.60	.55			2.00	1.41
Appropriate	2.00	1.73	1.67	.58	1.50	1.00	1.17	.41	4.5	2.12	2.33	1.53	2.00	1.41	1.40	.55			1.25	.50
Practical	2.33	1.53	1.67	.58	1.00	0	1.33	.52	5.0	0	2.33	.58	1.75	1.50	2.00	1.22			1.75	.96
Interesting	2.33	1.53	2.33	1.16	1.25	.50	1.83	.98	3.5	2.12	3.00	1.00	1.50	.58	1.40	.55			1.75	.50
Useful	2.33	1.53	1.67	.58	1.25	.50	1.50	.55	3.5	.71	2.33	1.53	1.50	1.00	1.60	.89			1.50	.58
Effective	3.00	2.00	2.00	0	1.50	.58	1.67	.52	3.5	2.12	2.33	.58	1.50	1.00	1.80	.84			2.00	1.41
Efficient	3.00	2.00	2.33	1.16	1.75	.96	1.50	.55	3.5	2.12	1.67	.58	1.50	1.00	1.80	.84			1.75	.50
Beneficial	2.33	1.53	2.00	1.00	1.50	.58	1.33	.52	3.5	.71	2.00	1.00	1.50	1.00	1.60	.89			1.75	.96
Valuable	2.67	2.08	1.67	1.16	1.75	.96	1.50	.84	4.5	.71	2.00	1.00	1.50	1.00	1.80	.84			2.00	.82
Flexible	3.67	2.31	2.33	.58	1.50	.58	1.83	1.17	3.0	2.83	3.67	.58	1.50	.58	2.20	1.64			2.50	1.73
Stimulating	3.00	2.00	2.33	1.53	1.50	.58	2.00	.89	3.0	1.41	2.68	1.16	1.50	1.00	1.60	.55			2.50	1.29
Relevant	1.67	1.16	1.33	.58	1.25	.50	1.17	.41	4.5	.71	2.33	.58	1.75	1.50	1.20	.45			1.25	.50

Means and Standard Deviations on a Semantic Differential Scale for the Total Trainees Sample

	M1		M2		M3		M4		M5		M6		M7		M8		M9		M10		Total	
	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Clear	1.88	.98	1.82	.99	2.29	1.25	2.15	1.31	3.17	1.43	2.10	1.22	3.71	1.52	2.57	1.35	2.77	1.29	1.90	.95	2.40	1.37
Appropriate	2.20	1.11	2.08	.98	2.05	.98	1.85	1.00	2.59	1.12	1.85	.94	2.74	1.24	2.39	1.16	2.70	1.35	1.93	.87	2.19	1.10
Practical	2.27	1.16	2.14	.99	2.13	1.16	1.85	1.11	2.69	1.14	1.89	.96	2.84	1.35	2.56	1.22	2.67	1.29	1.97	.94	2.26	1.17
Interesting	2.81	1.16	2.77	1.32	2.54	1.25	2.31	1.22	3.43	1.38	2.33	1.21	3.46	1.59	2.87	1.15	2.74	1.50	2.48	1.20	2.74	1.34
Useful	2.35	1.08	2.16	1.04	2.07	1.07	1.88	1.13	2.73	1.08	1.90	1.02	2.80	1.31	2.50	1.10	2.67	1.30	2.11	1.12	2.27	1.14
Effective	2.47	.98	2.36	.94	2.34	1.00	1.90	.86	3.16	1.19	2.27	1.07	3.52	1.33	2.69	1.18	2.84	1.34	2.19	1.17	2.55	1.19
Efficient	2.43	.99	2.39	1.05	2.36	1.09	2.08	1.13	3.21	1.28	2.27	1.14	3.58	1.40	2.65	1.17	3.02	1.35	2.29	1.13	2.59	1.24
Beneficial	2.45	1.19	2.20	1.01	2.21	1.04	1.78	.87	2.93	1.25	2.08	1.04	3.06	1.27	2.48	1.11	2.63	1.29	2.08	1.06	2.36	1.16
Valuable	2.36	1.18	2.44	1.06	2.14	1.02	1.80	1.03	2.84	1.27	2.13	1.05	2.97	1.32	2.52	1.14	2.77	1.27	2.17	1.09	2.36	1.17
Flexible	2.63	1.10	2.80	1.21	2.73	1.28	2.34	1.20	3.11	1.12	2.56	1.21	3.50	1.43	2.78	1.27	2.81	1.18	2.44	1.16	2.77	1.27
Stimulating	3.34	1.40	2.96	1.32	2.82	1.20	2.53	1.24	3.59	1.28	2.75	1.27	3.78	1.57	3.08	1.27	3.09	1.38	2.61	1.30	3.03	1.37
Relevant	2.42	1.23	2.16	1.04	2.03	1.01	1.83	.93	2.76	1.12	1.94	1.01	2.75	1.27	2.45	1.07	2.84	1.34	1.99	1.02	2.26	1.13

Means and Standard Deviations on a Semantic Differential Scale
for Selected Sample of Trainees

	M1		M2		M3		M4		M5		M6		M7		M8		M9		M10		Total	
	X	SD	X	SD	X	SD	X	SD	X	SD	X	SD	X	SD	X	SD	X	SD	X	SD	X	SD
Clear	2.05	1.21	1.77	.89	2.32	1.21	2.47	1.55	2.67	1.45	2.14	1.26	3.60	1.51	2.36	1.18	2.95	1.36	1.90	1.09	2.41	1.36
Appropriate	3.32	1.25	2.10	.95	2.03	.92	2.00	1.06	2.20	1.15	1.83	.95	2.59	1.28	2.23	1.21	3.00	1.45	2.14	1.06	2.16	1.12
Practical	2.50	1.18	2.11	.91	1.97	1.01	2.23	1.39	2.47	1.06	1.87	1.00	1.69	2.42	2.48	1.22	2.91	1.38	2.00	.89	2.23	1.16
Interesting	3.32	1.87	2.68	1.26	2.55	1.19	2.47	1.23	2.73	1.33	2.37	1.29	3.32	1.58	2.62	1.12	3.00	1.60	2.57	1.36	2.70	1.34
Useful	2.64	1.26	2.18	1.05	1.97	.98	2.35	1.37	2.47	.99	1.90	1.03	2.62	1.28	2.34	1.12	2.95	1.36	2.14	1.20	2.23	1.15
Effective	2.82	1.06	2.37	.89	2.30	.94	2.00	1.06	2.80	1.15	2.26	1.08	3.38	1.33	2.50	1.13	3.14	1.39	2.29	1.27	2.55	1.17
Efficient	2.68	1.09	2.35	.96	2.39	1.12	2.53	1.46	3.13	1.30	2.32	1.19	3.44	1.39	2.48	1.13	3.41	1.50	2.19	1.12	2.61	1.26
Beneficial	2.77	1.31	2.16	.94	2.18	.96	2.00	1.00	2.73	1.03	2.07	1.11	2.93	1.30	2.43	1.13	2.91	1.44	2.14	.96	2.36	1.15
Valuable	2.68	1.25	2.21	.98	2.14	.99	2.12	1.11	2.73	1.22	2.21	1.06	2.79	1.33	2.46	1.22	3.09	1.38	3.09	1.38	2.59	1.16
Flexible	2.72	1.08	2.76	1.24	2.70	1.19	2.71	1.40	3.27	1.17	2.57	1.21	3.37	1.49	2.55	1.31	2.86	1.17	2.43	1.16	2.77	1.28
Stimulating	3.41	1.18	2.89	1.26	2.86	1.12	2.94	1.48	3.20	1.21	2.85	1.32	3.68	1.62	2.93	1.16	3.18	1.40	2.62	1.56	3.03	1.35
Relevant	2.45	1.47	2.16	1.03	2.04	.97	1.94	1.03	2.60	1.12	1.99	1.01	2.56	1.30	2.39	1.19	3.14	1.52	1.90	1.04	2.24	1.16

BIBLIOGRAPHY

Brownsmith, K., Field, D. & Frick, K. Formative evaluation of the "observing and recording a child's behavior" module, CITH: Indiana University, In Preparation.

Brownsmith, K. & Field, D. Effectiveness of expert opinion and student opinion in formative evaluation of instructional modules, CITH: Indiana University, In Preparation.

Stolovitch, H. D. "From Modules to Modules: Application of an Adapted Model for Instructional Development to the Design, Production and Evaluation of Audio-visual training modules", September, 1975.

Thiagarajan, S. "Instructional Development for Training Teachers of Exceptional Children: A Final Report", 1976.

Williams, Patricia W. "A Comparison of Inservice Methods for Training Teachers to Comprehend and Implement the Decision-Making Model of Diagnostic Teaching", January, 1976, Final Report 9.32, CITH.

Windell I. "Development and Evaluation of a Module to Train Special Education Teacher Trainees to Determine a Pupil's Instructional Reading Level", December, 1975, Final Report 9.31, CITH.